

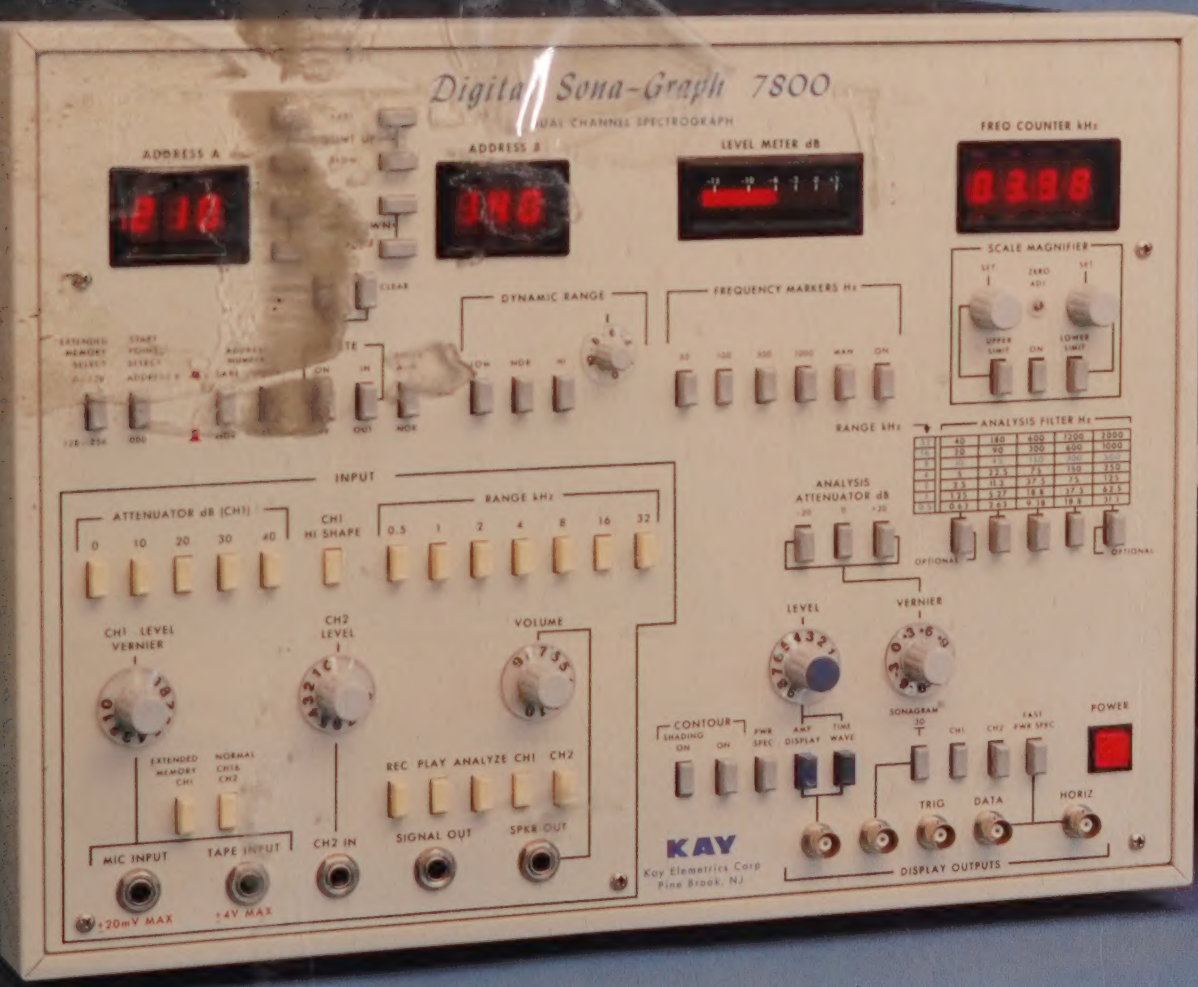
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LAB

Digital Sona-Graph®

Model 7800

- DC-32kHz Spectrum Analyzer with Printer
- Time History of Spectrum
- High Speed Dual Channel Spectrograph
- Waveform Printer
- 128K Data Points Stored



A Unique Signal Analysis System

KAY

January 1984

Issue B

Digital Sona-Graph[®] System

Includes Model 7800 Analyzer,
7900 Printer and Options

Maintenance Manual

KAY

Kay Elemetrics Corp
12 Maple Avenue
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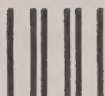
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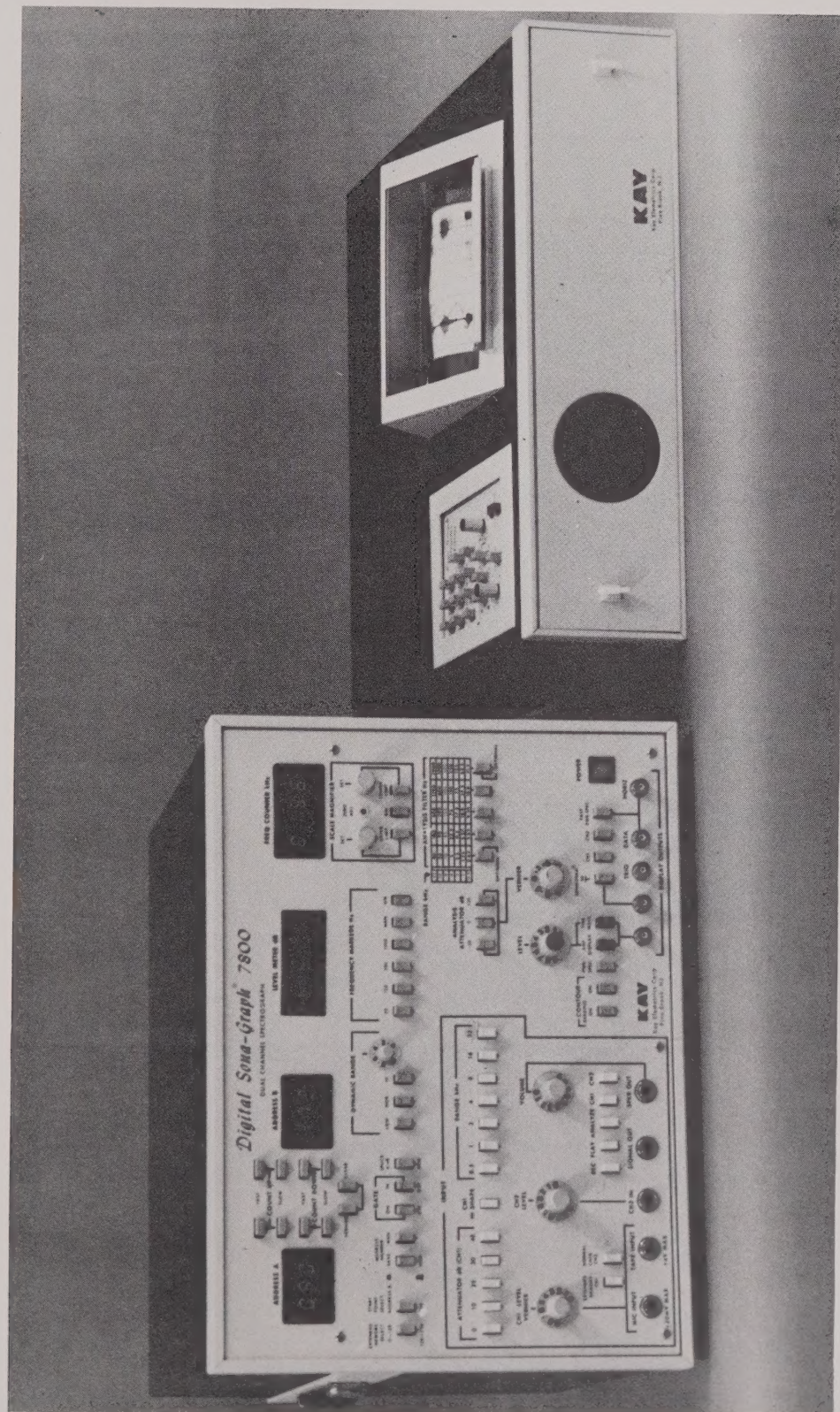
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Digital Sona-Graph and Printer

Models 7800 & 7900



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DIGITAL SONA-GRAPH® (MODEL 7800)

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CHECKOUT AND TROUBLESHOOTING SECTION

INTRODUCTION

Troubleshooting guides, by their nature, are very open-ended. Theoretically, there are an infinite number of things that can go wrong. The job of the manufacturer is to identify the most likely symptoms or problems the user will experience and provide guidelines to the causes of these problems. The problem with writing troubleshooting guides is that, as a responsible manufacturer, Kay attempts to design out any problems experienced during initial testing of the unit. The problems which the user will experience are therefore, usually problems not foreseen. These unforeseen problems are difficult to identify in advance. The information in XI. 4 will be helpful in tracing down circuit problems.

There is another set of problems that the user will experience which we can more easily help with - these are operator problems. The many user-defined controls of the 7800 make it relatively common for users to make mistakes in control selection or adjustment. The information in XI. 2. and XI. 3. is designed to help the customer who may have the controls set improperly.

7800/7900 CHECKOUT PROCEDURE

Before attempting this procedure, study the Operation Manual and become familiar with the many modes and controls.

I SET-UP

- A) Interconnect the 7800 and the 7900 with the supplied cable. The 7800 plug (Z5) is located to the left of the fuse holder on the rear plate, and the 7900 plug to the right of the line cord also on its rear panel.
- B) Check that the 7800 line voltage selector switch (Z9) is set correctly, (115V or 230V). The 7900 has a line voltage selector on Board 15083-2. Units set up to work on 230 volts are supplied with a red tag, so stating, fastened to the line cord.
- C) Check that the EXTERNAL/INT CLOCK (Z14) push switches located on the 7800 rear panel is in the OUT position. (The switch is shipped with a locking device to prevent it from being accidentally depressed. When it is desired to use these modes of operation, it is necessary to remove the locking wire.)
- D) Connect the 7800 and the 7900 power line cord to power outlets and push the POWER ON buttons of the 7800 (M26) and the 7900 (V5). The final check at the factory involved producing a 3D analysis of a voice recording using the 8kHz range and the 300Hz filter. The 7800 controls should still be set for this operation. Check that only the following switches are depressed.

INPUT SECTION:

CH1, 0dB (I1), HI SHAPE (I6), REC (M8), 8kHz (I12)
Dynamic Range - NOR (G11)

ANALYSIS SECTION:

300Hz Filter (I24), Attenuator 0 (I19), 3D (M21), CH1 (M22)

The variable controls should be set as follows:

CH 1 LEVEL (L2)	3
VOLUME (L11)	3
DYNAMIC RANGE (F13)	5
ANALYSIS LEVEL (L18)	5
ANALYSIS ATTENUATOR VERNIER (L21)	0

The above settings are used to perform all checks except where noted.

Set the 7900 controls as follows:

All push switches are UP, except 80 SEC PRINT TIME (S1) and POWER ON (V5) and MARK LEVEL (V1) at mid-range.

II ADDRESS FUNCTION

When the 7800 is switched ON, the address read-outs should read 000.

- A) Run the counters up rapidly by pushing and holding the FAST COUNT-UP buttons (A5 & A8). The count should reach 255 and then recycle to 000.
- B) Check SLOW COUNT-UP operation by holding these buttons (B5 & B8) down.
- C) Check that the address counts down when the FAST and SLOW and COUNT DOWN buttons (5, C8, D5, D8) are pressed.
- D) Reset ADDRESS A & B to 000.

III FREQUENCY COUNTER

- A) After allowing about 15 minutes for the oscillator to stabilize, the FREQ. COUNTER kHz read-out (C24) should be 00.00.
If it does not, check the following:
 1. If the 7900 printer stylus is not at the extreme right position, push 7900 RESET button (Q2).
 2. If one of the 7900 SONAGRAM SCALE buttons (T1, T2, T3) are pushed down, release.
 3. Adjust the SCALE MAG. ZERO ADJ. control (E24) for 00.00
- B) Push and hold down the 7900 CAL/NORM switch (T3).
 1. Set the CAL control (T5) to max clockwise (0) position.
Freq. Counter will read 00.00 $\pm$.10
 2. Set the CAL control (T5) to max counter clockwise (4),
the Freq. Counter should read 8.00 or slightly higher.

IV SCALE MAGNIFIER

- A) Push SCALE MAG ON switch (G24).
Adjust Upper and Lower Limit controls to maximum counterclockwise position (E23, E25).
- B) Press and hold the UPPER LIMIT switch (G23).
The Counter should read 00.00 $\pm$.10 and increase to more than 8.00 as the UPPER LIMIT SET control (E23) is turned to the maximum clockwise position.
- C) Press and hold the LOWER LIMIT switch (G25).
The Counter should read 00.00 $\pm$.10 and increase to more than 8.00 as the LOWER LIMIT SET Control (E25) is turned to the maximum clockwise position.
- D) Switch the Scale Magnifier OFF by releasing the POWER ON (G24) switch.

V PRINTER MECHANICAL OPERATION

The printer door should remain open during the following check to switch off the Stylus Voltage. (No pattern will be produced.)

- A) Remove the test Sonagram from the drum and replace it with an unused sonagram. Press the 80 SEC switch (S1).
- B) Press the PRINT switch (Q1) starting the stylus drive operation. As the stylus assembly is moving across the paper, press the 60 (S2), 40 (S3) and 20 (S4) second PRINT SPEED switches in succession and note that the stylus speed increases as each switch is pushed. When the stylus reaches the top of the drum, it will automatically return to the start position.
- C) Set MARK LEVEL control (V1) to 0
Close the printer door.
Press the 80 SECOND switch (S1)
Press the PRINT switch (Q1)
Press the EXPAND/NORM (V3) switch and note that the drum speed increases. After the stylus returns to the start position release the EXPAND/NORM switch (V3).
- D) Open the printer door, press PRINT switch (Q1). After the stylus moves partially across the drum, press the RESET (Q2) switch interrupting the travel and reversing the stylus direction of travel. Press the STOP (Q3) switch halting the stylus movement.
- E) Press the FAST (R1, R3) and SLOW (R2, R4) right and left travel controls and note that they control the stylus position.
- F) Press the RESET (Q2) switch returning the stylus to the start position.

VI MAKING A RECORDING

- A) See that the controls and switches are set as described in I.A - I.D
- B) Insert the microphone connector into CH1 IN jack (P2).
- C) Speak the phrase, "Four Zero Ohio" into the microphone. (Time duration about 2.5 seconds.)
- D) Set the CH 1 LEVEL VERNIER (L2) so that the LEVEL METER dB (C17) indicates peak readings at, or slightly above 0dB.
- E) Set the VOLUME control (L11) so that comfortable listening level is produced by the speaker, located behind the 7900 front panel.
- F) Repeat the phrase and immediately after completion of the phrase, push the PLAY switch (M9), thus storing the last 2.56 seconds in the 7800 Memory.

XI.2

- G) Listen to the stored information and if it is satisfactory, push the ANALYZE switch (M10).

The LEVEL METER reading (C17) will indicate level peaks below +3dB and played back audio will be 12 times the recorded rate.

VII MAKING A 3D SONAGRAM

- A) An unused Sonagram should be installed on the printer drum. Set the MARK LEVEL control (V1) to mid-range.
- B) Press the 1000Hz MARKER switch (G18)
Press the MARKER ON switch (G20)
- C) Press the PRINT switch (Q1) to print the Sonagram. (The darkness of the print is controlled with the MARK LEVEL setting.)

VIII AMPLITUDE DISPLAY AND TIME WAVE

- A) Retain the 3D Sonagram on the drum. Release the MARKER ON switch (G20).
- B) Press the AMP DISPLAY switch (M18).
- C) The AMP DISPLAY and Time Wave Prints occupy the upper half of the sonagram. To shorten the printing time, set the stylus to the middle of the print using the 7900 left FAST position switch (R3).
- D) Press the PRINT switch (Q1).
- E) To display the time wave, press the TIME WAVE switch (M19) and repeat Steps C and D.

IX CONTOUR DISPLAY

- A) Place an unused Sonagram sheet on the drum
- B) Press the CONTOUR SHADING ON (M15) and the CONTOUR ON (M16) switches.
- C) Press the PRINT switch (Q1) to produce a contour Sonagram.

X POWER SPECTRUM DISPLAY

- A) Place an unused Sonagram sheet on the drum.
- B) Press the PWR SPEC switch (M17).

- C) Select two periods of time (memory, address locations) at which the power spectrum are to be made, by setting the times with the ADDRESS A and B controls (A5, B5, C5, D5, A8, B8, C8, D8).
- D) Press PRINT switch (Q1). (A particular address location may have minimal or no spectral energy, resulting in a straight narrow line on the print.)

XI SONAGRAM VARIATIONS

Variations of control settings including frequency ranges, filter bandwidths, dynamic range, scale magnifier and marker frequencies may be demonstrated by making additional prints. When changing the input frequency range and Hi Shape setting, it is necessary to make new recordings. (Note also that units which do not include optional filters will have these switches (I22 & I26) locked in the OUT position.)

XXI LOG, INVERT, EXPAND FUNCTIONS

The Log, Invert and Expand functions can be demonstrated on a single Sonagram by pushing these control switches (R1, T2, V3) and the 1000Hz frequency markers (G18, G20) and making the 3D print.

XIII GATING FUNCTION

To demonstrate the gating function effects,

Push the PLAY switch (M9) and listen to the effects on the recorded signal.

- A) Push GATE ON/OFF switch (G6) ON.
Push the GATE IN/OUT switch (G7) IN.

The portion of the memory that will be played out is selected by setting the ADDRESS A and ADDRESS B controls.

Setting A to 000 and B at 85 will play the first one-third of the memory.

- B) Set GATE IN/OUT (G7) to OUT and remaining two-thirds of the memory will play, with a quiet interval occurring during the time occupied by the first one-third.
- C) Push the SPLICE A--B/NOR switch (G8) to A--B. This allows the two-thirds of the memory to be played with the quiet time interval removed.
- D) Reset all gating switches to the OUT position and the complete memory will be played.

XI.2 CHANNEL SELECT SWITCH CHECKOUTS

The chart below indicates the effect of the control switches on the speaker and display outputs.
Connect microphone to MIC input (P2).

INPUT CHANNEL	FUNCTION	CH1 (M11) and CH2 (M12) SWITCHES	CH1 (M22) AND CH2 (M23) SWITCHES
Extend Memory CH1 Switch depressed	REC (M8) or PLAY (M9) ANALYZE (M10)	Either switch (M11 or M12) provides the same effect (only one channel is used).	Either switch provides the same effect (only one channel is used)
NORMAL CH1 & CH2 depressed (M4) Continuous recording on both channels	REC (M8) or PLAY (M9)	Select which channel is being listened to and indicated on LEVEL METER	Not to be used.
	ANALYZE (M10)	CH1 (M11) and CH2 (M12) switches are non-functional. Speaker & Signal OUT outputs are controlled by Display CH1 (M22) and CH2 (M23) switches.	All audio and display outputs are controlled by M22 & M23

The CHANNEL 2 (P6) input requires a high impedance high level signal, the microphone output cannot be recorded directly on this channel. (The Model 7813 Dual Channel option is required.) To check the operation of this channel, connect an audio signal generator, with .3 volts at 600 ohms into the CH2 (P6) input connector, depress NORMAL CH 1 & CH 2(M4) and CH 2 speaker switches. Set CH 2 (L6) level to 5 and listen to the REC(M8) or PLAY (M9) signal.

XV DISPLAY OUTPUTS

To check these outputs an oscilloscope, preferably a storage type, is required.

- A) Using the previous recording, depress ANALYZE (M10) switch.
- B) Connect the oscilloscope vertical input to the AMP DISPLAY/TIME WAVE jack (P18).
Set ANALYSIS LEVEL (L18) control to 5.
- C) Push both of the display switches to display that function output on the oscilloscope.
- D) Connect the oscilloscope vertical input to 3D, CH1, CH2, DISPLAY output jack (P20) and push the switches to display each of the functions on the oscilloscope.
- E) The Trigger Pulse outputted at the TRIG (P22) connector is usable for synchronizing the oscilloscope horizontal sweep to the display outputs (except FAST PWR SPEC). A pulse is generated every time the memory address counter is equal to the number displayed on ADDRESS B (C11) readout. This pulse can be viewed by connecting the scope vertical input to the TRIG (P22) connector.
- F) The fast power spectrum is displayed by connecting the oscilloscope to the DATA (P23) and HORIZ (P25) connectors and pushing the FAST POWER SPEC (M24).

This completes the 7800/7900 checkout procedure. If these checkout procedure demonstrated that the system is still not operating properly, consult the factory for troubleshooting advice or to return the system for repair.

(This printer test procedure is an internal document used by Kay personnel to test the printer.)

PRINTER TEST PROCEDURE

1. Visual Inspection, check for the following:
 - a) loose wires
 - b) parts missing
 - c) loose screws, stylus pot nut should be tight
2. Free rotation of drum, spin drum by hand. Ensure that drum rotates freely with paper "hold down" clamps in UP & DOWN positions. If left panel clamp hits cowling wall, loosen left bearing mount and shim as needed. If magnet hits Hall Effect device, magnet can be adjusted by loosening bracket on side of drum. Check magnet clearance .020---.060.
3. Insert Sonagram® paper in paper groove, ensure that paper slides freely around channel. If paper binds, loosen & retighten paper retaining rings as needed.
4. Attach stylus assy, remove O-ring drive belt; manually move stylus slide to lower position as block just moves off MARK AMP cutoff switch. By loosening locking rings and solenoid swing arm, move slide assy. so that needle tip is on ($\pm 1/16$ ") lower blue line of Sonagram® paper; tighten locking ring setscrews.
5. Move stylus slide to upper position just as block actuates upper limit switch. Ensure that needle is on upper blue line of sonagram® paper ($\pm 1/16$ ").
6. Manually engage solenoid pressing in only by plunger and not by solenoid swing arm. Stylus wire should engage paper with no more than $5/32$ " of wire

beyond tube end. If substantially more or less than 5/32" of wire is needed to engage paper without bending stylus spring, adjust stylus shaft position with relation to solenoid swing arm. For proper orientation of needle to drum, lock solenoid swing arm set screws with locktite.

7. Manually check for smooth non-binding operation of solenoid & stylus cable drive. Ensure that when solenoid releases stylus, pointer does not hit drum.
8. Remove O-Ring pulley and shaft from cable bobbin, loosen set screws on stylus pot shaft. Move stylus slide to absolute right side limit, insert screwdriver through cable bobbin to slot in stylus pot shaft, turn shaft CW to stop. While holding stylus slide block from moving, turn stylus pot shaft 150° CCW, tighten setscrews on stylus pot shaft, insert O-Ring pulley and shaft in cable bobbin and tighten setscrews. Manually move stylus drive through entire range, ensure that stylus block moves through smoothly and engages and trips all limit switches.
9. Remove switch panel from mounting posts, tilt to side and remove all connectors from logic board, log amp board and power supply board. Check that fuse is 2 amp slo-blo, remove terminal board cover, plug unit into outlet and press power ON switch. Check for following voltages:

TBI - 1	120 VAC
TBI - 3	12 VDC $\pm$.15 VDC
TBI - 4	43 VDC $\pm$ 7 V
10. Remove power, plug in (J1) on 14986 board (power supply), apply power, check for following voltages:

J1, 14986	
Pin 2	5 VDC $\pm$.3 VDC
	$\pm$.1 VDC
Pin 4	31 VDC $\pm$ 1.5 VDC

11. Remove power, plug P.C. board connections into boards one at a time frequently checking power supply voltages ensuring that voltages do not get pulled down. With all P.C. board connections complete and the power turned ON, the POWER ON light should be lit. Recheck power supply voltages for proper level.
12. Check operation of switch panel controls. Print switch should turn fan and drum motor on upon release of switch, check direction of rotation at high and low speed. Reset and stop switches should work in parallel with upper and lower limit microswitches. Check FAST and SLOW, FWD and REV stylus controls. To set up slow speed, set V out of A1 on 14974 board to $2.5 \text{ VDC} \pm .1 \text{ VDC}$ by adjusting R4. Adjust print times to 90, 60, 40 and 20 sec. (± 1 sec) with pots on 14974 board. Print times should begin with startup of stylus drive motor not release of print switch.
13. With switches in LIN, norm positions, move stylus until it just moves off bottom microswitch, adjust (R5) on 14976 so that V out of (A1) equals $5 \text{ VDC} \pm .1 \text{ VDC}$. Adjust (R8) on 14976 so that pin 2 of ELEC/MECH jack equals $0.00 \text{ VDC} \pm .01 \text{ VDC}$.
14. Move stylus to upper limit position, adjust (R7) on 15083 board so that pin 2 of ELEC/MECH jack equals $5 \text{ VDC} \pm .01 \text{ VDC}$.
15. Press INVERT/NORM switch to INVERT position. Move stylus back to lower position, adjust (R2) on 14976 so that pin 2 of ELEC/MECH jack equals $5 \text{ VDC} \pm .01 \text{ VDC}$. Move stylus to upper position, adjust (R4) (50K pot) so that pin 2 on ELEC/MECH jack equals $0.00 \text{ VDC} \pm .01 \text{ VDC}$.
16. Move INVERT/NORM switch to NORM position, Move LIN/LOG switch to LOG position, move stylus to lower position, adjust (R11) on 15083 board so that A3 pin 7 - $1.00 \text{ VDC} \pm .005 \text{ VDC}$. Move stylus to upper position. Adjust (R14) on 15083 so that A3 pin 7 equals $.015 \text{ VDC} \pm .005 \text{ VDC}$.

17. Adjust (R26) so that pin 2 ELEC/MECH jack equals $5 \text{ VDC} \pm .05 \text{ VDC}$ ($\pm 0.0 \text{ VDC}$). Move stylus to lower position, adjust (R23) so that pin 2 ELEC/MECH jack equals $0.00 \text{ VDC} \pm .01 \text{ VDC}$. Move stylus to upper position, recheck that output voltage is 5 VDC and adjust if needed.
18. Add drive belt by removing screws from bearing blocks. Add synch motor drive pulley, align pulleys with each other, put belt on pulleys at proper tension.
19. Check hall effect switch. Pin 3 of ELEC/MECH jack should go to a logic low ($.2 \text{ VDC}$) when magnet comes in close proximity of hall effect switch. Pin 3 should go high (5 VDC) as magnet moves away.
20. Monitor 12 VDC input into mark amp, check that drum hood interlock switch and lower limit cutoff switch cuts 12 VDC to mark amp, also check that CAL/NORM switch overrides lower limit switch.
21. Input 200kHz OSC into pin 1 ELEC/MECH jack, turn mark level to MAX, adjust OSC to 3 VP-P and check that voltage at needle tip is 1100 VP-P. Engage print button and check that at 80 sec. print time a deep, rich black is burned on the pattern, adjust mark level pot to see that a complete range of darkness can be burned.
22. Remove OSC, connect gate line generator, press print switch, move mark level pot to MAX position. Run print at 80 sec. print speed at both NORM and EXPAND, ensure that lines are straight and even with no wiggle. Adjust hall effect device position so that start point is on edge of paper.
23. Disconnect line generator, connect high resolution counter to hall trigger output, take frequency reading at both high and low drum speeds. Verify that readings are as follows:

NORM	$281.25 \text{ RPM} \pm .25\%$
EXPAND	$562.50 \text{ RPM} \pm .25\%$
24. Disconnect frequency counter, tighten all screws, replace all covers, unit can now be locked up in cabinet.

TROUBLESHOOTING SECTION

OPERATING DIFFICULTIES

Most of the operating difficulties with the Digital Sona-Graph can be traced to an inappropriate control setting. This section will simply review the control settings which present the most problems and suggest a procedure to check the control settings. A review of Section XI.2 should help check out the 7800/7900.

Review the operating procedure very carefully. If a stored signal cannot be analyzed spectrographically, check the following:

1. INT/EXT CLOCK (Z14) on rear panel. Keep on INT position.
2. Check that the proper channel was selected (M23 or M22).
3. Check that a button between M15 - M21 was depressed.
4. Turn off GATE (G6 OUT) for most applications.
5. Check printer to electrical unit connection.
6. Check that a filter (I22 - I26) is depressed.
7. Check voltage switch on rear panel (Z9).

If the LEVEL METER does not respond to the input signal, check the following:

1. Is REC (M8) depressed?
2. Is the unit power on (M26)?
3. Is the connection properly made? (Try the microphone in MIC, P2).
4. Is the input level adjusted? (I1 - I5, L2)
5. Is the range appropriate? (I18 - I14).

TROUBLESHOOTING SECTION
DETERMINING PROBLEM SUBSYSTEM

Virtually all of the circuitry in the Digital Sona-Graph is on printed circuit board modules. In most cases, without test equipment, the user can determine the problem.

The description of each main PCB module with possible symptoms of failure is contained in the next two pages. If this table does not help to determine the problem area consult the appropriate schematic.

DESCRIPTION OF PRINTED CIRCUIT MODULES IN THE DSG

MAIN PCB's WHICH PLUG INTO THE MOTHERBOARD - FROM LEFT TO RIGHT

PRINTED
CIRCUIT
MODULE
NUMBER

NAME

DESCRIPTION

POSSIBLE SYMPTOM OF FAILURE

15024-2	Sona-Counter	These circuits control the frequency counter, frequency markers and scale magnification	All functions of the 7800 work properly except the counter, the frequency markers or the scale magnifier.
15493-3	Timing	This PCB controls the rate of A/D and D/A and the data transfer operations	7800 will not store or playback or record
15017-2	Gating	Controls power spectrum (spectrum) and all special splicing functions (address counter programmer).	Sona-Graph are badly skewed; power spectrum function doesn't work
15495-3	Address Counters	Two counters for memory locations, one counter is a refresh counter for dynamic RAMS.	7800 will not store or playback, memory time is short.
15494-3	Memory	The board has the 128K x 12 bit memory which stores the signal.	No storage or noisy storage.
15496-3	A/D D/A	12 Bit Linear bipolar S.A.R. and two 12 Bit D/A converters.	No storage or noisy storage. No high speed data.
15023-2	Single Line/ "A" Trace	This board contains: 1) Pwr Spectrum ckts. 2) Fast Pwr Spectrum 3) Single line	All other functions of Sona-Graph work except one or more of these functions
15022-2	Carrier Osc. & Amp. Disp.	1) Local oscillator 2) Amp display	Unable to produce frequency or poor frequency spectrum. Amplitude Display not working.

DESCRIPTION OF PRINTED CIRCUIT MODULES IN DSG

MAIN PCB's WHICH PLUG INTO THE MOTHERBOARD - FROM LEFT TO RIGHT

PRINTED
CIRCUIT
MODULE

NUMBER	NAME	DESCRIPTION	POSSIBLE SYMPTOM OF FAILURE
15025-2	Contour	This board is used only when producing the contour patterns as in Section VI.5.B	All functions of the 7800 work properly except the contour patterns.
15021-2	Filter & Dynamic Range Control	Board contains all analyzing filters and amplitude compression circuit.	Able to produce non or only some freq. spectrums, or all are poor. Limited gray scale range.

ORDERING PARTS AND SUPPLIES

All 7800 parts and supplies are ordered directly from Kay Elemetrics (Pine Brook, NJ, USA) or from Kay's agents overseas.

Each part in the Digital Sona-Graph is assigned an eight-digit number. The Parts List in Section XIII describes the assemblies and parts and lists the eight-digit number. All purchase order and requests for prices should be based on these eight-digit numbers.

There are a few supplies which will be ordered most commonly. The eight-digit number for these parts is as follows:

DESCRIPTION	EIGHT-DIGIT PART NUMBER
B/65 (Sonagram paper without address locators)	0269-0001
B/85 (Sonagram paper with address locators)	0269-0007
Fiberglass pre-filter	7152-1100
Charcoal final Filter	7151-4800
Printing Stylus needles (tungsten)	7151-9800
Plastic envelopes for Sonagram paper	1111-0164
B/65 clear overlay	7152-0700

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

A

B

C

D

E

F

G

H

I

J

K

L

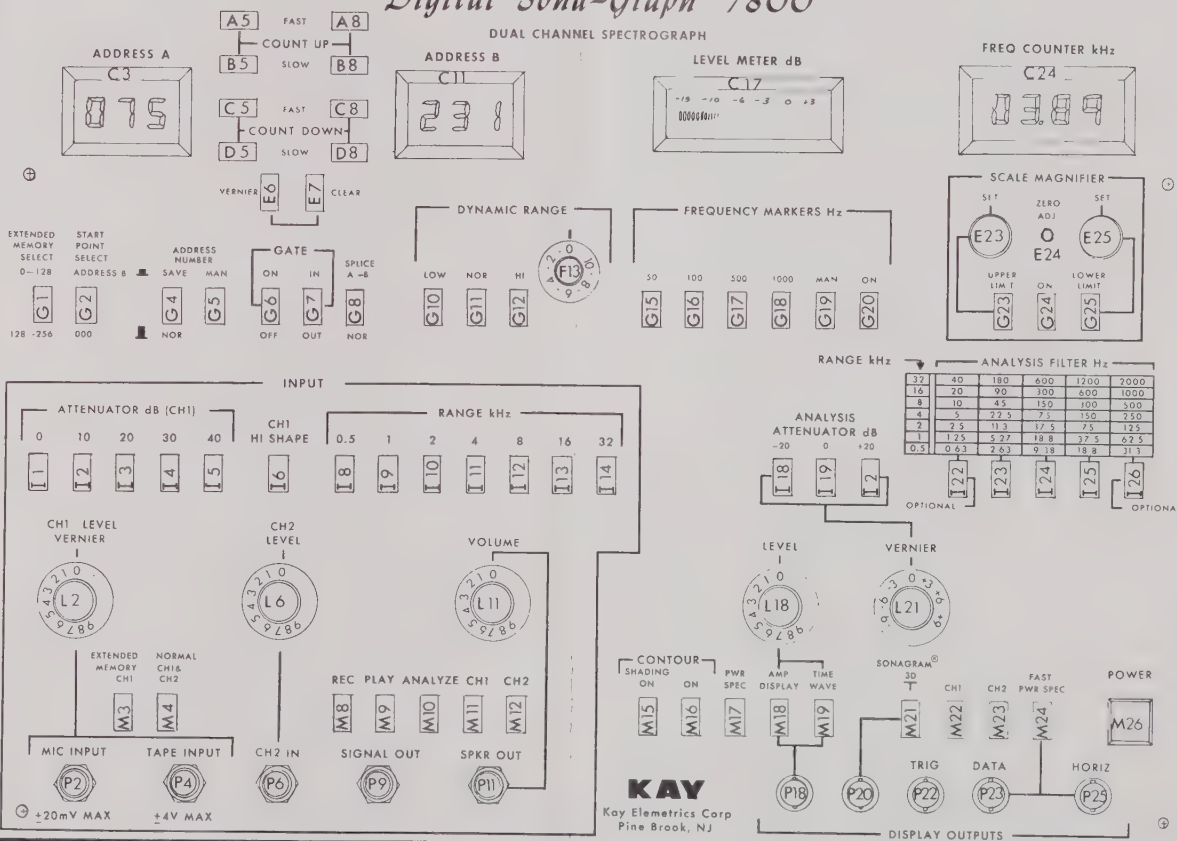
M

N

P

Digital Sona-Graph® 7800

DUAL CHANNEL SPECTROGRAPH



PARTS LIST

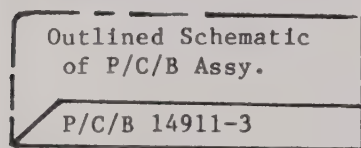
INTRODUCTION

This section list all of the parts in the Digital Sona-Graph, model 7800 and printer, model 7900. Virtually every component on the Digital Sona-Graph is available as a spare part. Individual circuits or entire printed circuit boards (PCB) can be purchased as spare parts. All parts purchase through Kay Elemetrics Corp must include the Kay 8-digit part number. If more convenient the user can purchase parts directly from the original manufacturer (manufacturer name and part number are also listed in the parts list).

Most of the circuitry for the Digital Sona-Graph is contained on printed circuit boards. For this reason the parts list has been subdivided by PCB (or assembly number). These boards and other modules for the 7800 and the 7900 are listed on the next page.

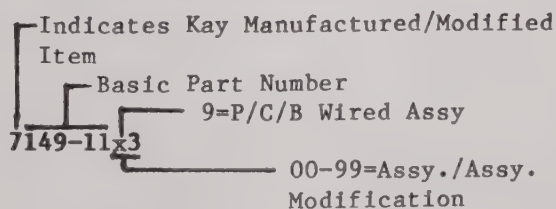
NOTE: Assembly numbers (parts list numbers for complete PCBs), reference module/board numbers and schematic numbers relate as shown below and in the cross reference table.

PCB REFERENCE
DESIGNATION NO.:



14911-3
Basic Part No. Assy./Assy. Modification

KAY 8-DIGIT PART NUMBER



CROSS REFERENCE TABLE
Model or PCB Descrip./Assembly No./Module No./Schematics No.

7800 Electrical Unit

Module or PCB Descrip.	Assembly No.	Reference	
		Module/Bd No.	Schematic No.
PCB Display Functions	7149-1094	14,910-4	C14,910-4
PCB Range Filters	7149-1295	14,912-5	D14,912-5
PCB Calib/Scale Mag.	7149-1592	14,915	C14,915-3
PCB Gating Display	7149-1693	14,916-3	D14,916-3
PCB 4-Digit Display	7149-1792	14,917	B14,917-3
PCB Gating BCD/Binary C.	7149-3893	14,938-3	D14,916-3
Final Assembly	7149-9400		
Chassis Assembly	7149-9600		
Panel Assembly	7149-9700		
Rear Plate Assy.	7149-9800		
Card Cage Assy.	7149-9900		
PCB VU Meter	7150-0093	15,000-3	B15,000-3
PCB Gating	7150-1792	15,017-2	D15,017-2
PCB Filter/AGC	7150-2192	15,021-2	D15,021-2
PCB Carrier Osc./Amp Dis.	7150-2292	15,022-2	D15,022-2
PCB			
Sectioner/A-Trace/Sing.	7150-2392	15,023-2	D15,023-2
PCB Sona Coutner	7150-2492	15,024-2	D15,024-2
PCB Counter Display	7150-2592	15,025-2	D15,025-2
PCB Switching/Pre Amp.	7150-3892	15,038-2	B15,038-2
Cable Assy. Mech-Elec.	7150-3900		
Filter Option, PFI20-6000	7150-4100		
PCB Timing	7154-9393	15,493-3	D15,493-3
PCB Memory	7154-9493	15,494-3	D15,494-3
PCB Counter	7154-9593	15,495-3	D15,495-3
PCB A/D	7154-9693	15,496-3	D15,496-3
PCB Record/Play	7154-9893	15,498-3	B15,498-3
PCB Record Atten/Range	7154-9993	15,499-3	C15,499-3
PCB Gating Function	7155-0093	15,500-3	B15,500-3
PCB Mother	7155-1093	15,510-3	
PCB Display Atten/Filter	7155-1393	15,513-3	C15,513-3
Interconnection			D15,515
Block Diagram			D15,600
Cable Assy.-R.P.	7155-8300		
Rack Slide Kit	7159-5900		

PARTS LIST INTRODUCTION

The following is a description of the different categories on the Kay Elemetrics Parts list (see example below).

- (A) PARENT ITEM NO. - The Assembly number.
- (B) DESCRIPTION - Description of the Assembly.
- (C) COMPONENT ITEM NO. - Part number of each component in the assembly.
- (D) DESCRIPTION - Description/Original Manufacturer of the component.
- (E) QUANTITY PER - The quantity of components per assembly. (Disregard the three zeros after the decimal point).
- (F) ITEM UM (UNIT OF MEASURE) - EA represents each. FT represents foot.
- (G) ITEM TYP (TYPE CODE) -
 - 1 - Assembly or Subassembly
 - 2 - Item manufactured by Kay Elemetrics
 - 3 - Raw Material
 - 4 - Item purchased by Kay Elemetrics

(A) PARENT ITEM NO. 7149-7493		(B) DESCRIPTION PCB WIRED SWITCH CONTROL ENGR DRAW				(E) QUANTITY	(F) ITEM	(G)
LL	(C) COMPONENT	(D) DESCRIPTION	ENGINEERING	PER	UM	TYP		
CD	ITEM NO.		DRAWING NUMBER					
04	0101-0013	CAP, .1MFDX100V, CAPAR#CEM		3.000	EA	4		
04	0201-0098	IC,LM317H NATIONAL		2.000	EA	4		
05	0683-0013	RES, 270 OHM, CR25		2.000	EA	4		
02	7155-2100	BRACKET, HANDEL SUPPORT		2.000	EA	2		
03	7150-6200	BRACKET LINE CORD HOLDER DSG		1.000	EA	2		
05	8114-0001	WIRE, 24-7, BLACK, VERTEX		2.000	FT	4		

MANUAL ADDENDUM
DIGITAL SONA-GRAPH®
MODEL 7800 AND 7900

ECN #2265

SERIAL NO. AFFECTED: MO# 13 and up.

SCHEMATIC: D15142-2P, SHEET 1 and D15142-2P, SHEET 2

CHANGES: Changed regulated voltage of A2 from +7 volts to +6 volts, to
improve Log Display set-up.
Changed R1, PCB 15083, to 1500ohms C-4 Corning Glass.

ECN #2268

SERIAL NO. AFFECTED: All after MO# 14.

SCHEMATIC: D15142-2P (SHEET 1 & 2)

REASON FOR CHANGE: To allow NOR/EXPAND switch to indicate mode of
operation.

CHANGES: Added LED indicator to panel. The following assemblies and parts
were added to the parts list.

Assembly #7162-1593 was added to the switch panel assembly
(7155-6900).

COMPONENT ITEM NO.	DESCRIPTION	QUANTITY	ITEM UM TYP
0490-0015	Relay, Aromat HB2-DC12V	1.000	EA 4
0683-0037	Res, 820 Ohm, CR25	1.000	EA 4
1230-0001	Header, 4 CKT, AMP 640456-4	1.000	EA 4
1230-0002	Header, 7CKT, AMP 640456-7	1.000	EA 4
1901-0015	DIODE, 1N4446, FSC	1.000	EA 4
7162-1503	PC Board	1.000	EA 4

The following cable assembly (LED to PCB 16215) was added:

ASSEMBLY NO. 7162-2300

COMPONENT ITEM NO.	DESCRIPTION	QUANTITY	ITEM UM TYP
1231-0001	Housing, 4CKT, AMP 640441-4	1.000	EA 4
1232-0001	Cover, 4CKT, AMP 640550-4	1.000	EA 4
7162-2201	CONN MOD (1250-0266)	1.000	EA 2

(Continued on page 2)

ECN# 2268 Continued:

The following parts were added to route 12V to EXPAND switch to activate relay.

COMPONENT ITEM NO.	DESCRIPTION	QUANTITY	ITEM UM TYP
1450-0041	LED ASSY, RED, TI	1.000	EA
7156-3700	JACK/SCREW, 4-40 X 5/16	2.000	EA
0363-0021	Term Ring Tongue, AMP 321020	1.000	EA
1231-0002	Housing, 7 CKT, AMP 640441-7	1.000	EA
1232-0002	Cover, 7 CKT, AMP 640550-7	1.000	EA

ECN #2269

SERIAL NO. AFFECTED: MO# 14 and up.

SCHEMATIC: D15142-2P, SHEET 1 and D15142-2P, SHEET 2

CHANGES: Added jumper between Pins 3 & 4, for +12V wires, and moved +50V terminal from Pin 4 to Pin 5.

ECN #2275

SERIAL NO. AFFECTED: All after MO# 14.

SCHEMATIC: D15024-2K

CHANGE: Tied pins 2 & 3 to 5 volts through R38 for proper operation of A6.

PARENT ITEM NO.
7149-1094DESCRIPTION PCB WIRED, DISP/FUNC 7800B ONLY
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0683-0012	RES, 220 OHM, CR25		1.000	EA 4
04	0683-0024	RES, 10K OHM, CR25		1.000	EA 4
04	1230-0001	HEADER, 4CKT, AMP 640456-4		1.000	EA 4
04	1230-0003	HEADER, 10 CKT, AMP 1-640454-0		1.000	EA 4
04	1230-0004	HEADER, 15CKT, AMP 1-640454-5		2.000	EA 4
04	1901-0015	DIODE, 1N4446, FSC		1.000	EA 4
05	3104-0014	SWITCH, CENTRALAB #PB1		1.000	EA 4
05	3104-0017	SWITCH, CENTRALAB #PB-15-2		1.000	EA 4
05	3104-0025	SWITCH, CENTRALAB #PB1		1.000	EA 4
05	3104-0034	SWITCH, CENTRALAB		1.000	EA 4
05	7149-1004	PCB DSG		1.000	EA 4

PARENT ITEM NO.
7149-1295DESCRIPTION PCB WIRED, RANGE FIL 7800B ONLY
ENGR DRAW

BATCH QTY

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0002	CAP, .0015MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0004	CAP, .0033MFDX100V CAPAR CEM		2.000	EA 4
05	0101-0005	CAP, .0047MFDX100V CAPAR CEM		2.000	EA 4
05	0101-0006	CAP, .0068MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0007	CAP, .01MFDX100V CAPAR CEM		3.000	EA 4
05	0101-0008	CAP, .015MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		4.000	EA 4
05	0101-0010	CAP, .033MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0012	CAP, .068MFDX100V CAPAR CEM		2.000	EA 4
05	0181-0007	CAP, 22MFDX35V, PAN#ECE-A1VK220		2.000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		2.000	EA 4
04	0201-0138	IC, CA3140AE, RCA		1.000	EA 4
05	0201-0139	IC, NE5532, SIG		4.000	EA 4
05	0683-0005	RES, 22 OHM, CR25		2.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		1.000	EA 4
04	0683-0016	RES, 1K OHM, CR25		13.000	EA 4
04	0683-0019	RES, 2200 OHM, CR25		1.000	EA 4
05	0683-0020	RES, 3900 OHM, CR25		8.000	EA 4
04	0683-0024	RES, 10K OHM, CR25		10.000	EA 4
05	0683-0025	RES, 15K OHM, CR25		8.000	EA 4
05	0683-0027	RES, 56K OHM, CR25		4.000	EA 4
05	0683-0034	RES, 390 OHM, CR25		1.000	EA 4
05	0683-0036	RES, 680 OHM, CR25		7.000	EA 4
05	0683-0037	RES, 820 OHM, CR25		1.000	EA 4
05	0683-0039	RES, 2K OHM, CR25		8.000	EA 4
05	0683-0043	RES, 12K OHM, CR25		2.000	EA 4
05	0683-0045	RES, 22K OHM, CR25		1.000	EA 4
05	0683-0047	RES, 100K OHM, CR25		5.000	EA 4
05	0683-0048	RES, 180K OHM, CR25		4.000	EA 4
05	0683-0061	RES, 390K OHM, CR25		4.000	EA 4
05	0683-0064	RES, 510 OHM, CR25		3.000	EA 4
05	0683-0071	RES, 7500 OHM, CR25		8.000	EA 4
05	0683-0072	RES, 27K OHM, CR25		10.000	EA 4
05	0683-0073	RES, 750K OHM, CR25		4.000	EA 4
05	1111-0272	CIRCUIT CARD PULLER, KAY01		1.000	EA 4
05	1210-0045	SOCKET, TRANS, GARRY 440-B4-CC-D		2.000	EA 4
04	1210-0051	SOCKET, 8PIN, PCI #LSO-308-T		5.000	EA 4
05	1250-0158	CONN, MOLEX 22-15-2031, 3 CKT		1.000	EA 4
05	1250-0166	CONN, MOLEX 22-15-2156, 15 CKT		1.000	EA 4
05	1860-0003	TRANS, 3N138 RCA FET		2.000	EA 4
04	1860-0026	TRANS, 2N5033-18 NSC		48.000	EA 4
05	7149-1205	PCB DSG		1.000	EA 4

PARENT ITEM NO.
7149-1592DESCRIPTION PCB CALIB/SCALE 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	0201-0021	IC, MC1458CPI, MOT		2.000	EA 4
05	0201-0086	IC, LM317T, NSC		1.000	EA 4
05	0671-0031	RES, 10K OHM, RN60D		2.000	EA 4
04	0683-0013	RES, 270 OHM, CR25		1.000	EA 4
04	0683-0024	RES, 10K OHM, CR25		7.000	EA 4
05	0683-0036	RES, 680 OHM, CR25		1.000	EA 4
04	1210-0051	SOCKET, 8PIN, PCI #LSO-308-T		2.000	EA 4
04	1230-0002	HEADER, 7CKT, AMP 640456-7		1.000	EA 4
04	1230-0004	HEADER, 15CKT, AMP 1-640454-5		1.000	EA 4
05	2100-0057	POT, 1K, BECKMAN 72PMR1K		1.000	EA 4
05	2100-0080	POT, 5K, BECKMAN 72PMR5K		1.000	EA 4
05	3104-0014	SWITCH, CENTRALAB #PB1		2.000	EA 4
05	3104-0016	SWITCH, CENTRALAB #PB1		3.000	EA 4
05	3104-0020	SWITCH, CENTRALAB #PB15		1.000	EA 4
05	7149-1502	PCB DSG		1.000	EA 4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7149-1693 TO-7149-1693

DATE 4/03/85
OPER CAC

PARENT ITEM NO. DESCRIPTION PCB WIRED GATING DISP 7800A&B BATCH QTY 1
7149-1693 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	1111-0153	DISPLAY, MONSANTO #MAN4610A		6,000	EA 4
05	1111-0273	RES NET, BOURNS #4114R-001-1B1S		6,000	EA 4
04	1210-0049	SOCKET, 14PIN, PCL #UWW-314-3T		6,000	EA 4
05	1230-0004	HEADER, 34PIN, AP 929836 01-17		2,000	EA 4
05	3104-0010	SWITCH, CENTRAL AB #K40121AA		2,000	EA 4
04	3104-0012	SWITCH, CENTRAL AB #MP15		2,000	EA 4
05	7149-1603	PCB DSG		1,000	EA 4

PARENT ITEM NO. DESCRIPTION PCB WIRED 4 DIGIT DISP 7800A&B BATCH QTY
7149-1792 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	1111-0153	DISPLAY, MONSANTO #MAN4610A		4,000	EA 4
06	1230-0004	HEADER, 15CKT, AMP 1-640454-5		1,000	EA 4
05	7149-1702	PCB DSG		1,000	EA 4

PARENT ITEM NO. DESCRIPTION PCB WIRED GAT RCD/BIN 7800A&B BATCH QTY
7149-3893 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0201-0055	IC, DM7447AN, NSC		6,000	EA 4
05	0201-0061	IC, SN74192, TI		6,000	EA 4
05	1210-0053	SOCKET 16 PIN, PCL #LSO-316-T		12,000	EA 4
05	1230-0005	HEADER, 10CKT, AMP 1-640455-0, RT		2,000	EA 4
05	1231-0005	HOUSING, 34CKT, AP PRO 929975-17		2,000	EA 4
05	7149-3803	PCB DSG		1,000	EA 4

PARENT ITEM NO. DESCRIPTION DIGITAL SONOGRAPH 7800B BATCH QTY 1
7149-9400 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
01	0260-0005	MICROPHONE ASSY (0260-0006)	15003	1,000	EA 4
01	0269-0001	PAPER, TIMEFAX NDK (B65) 1311		4,000	EA 4
01	0269-0007	PAPER, TIMEFAX DSG (B85) 1313	15035	1,000	EA 4
01	7149-94LK	LOCK UP		1,000	EA 9
01	7149-94TC	TEST COMPONENT		1,000	EA 9
01	7149-9500	ENCLOSURE ASSY 7800A&B		1,000	EA 1
01	7149-9600	CHASSIS ASSY 7800A&B		1,000	EA 1
01	7150-3900	CARD ASSY ELEC/MECH 7800A&B	B15039	1,000	EA 1
01	7152-0700	OVERLAY FOR RECORD PAPER KAY01		1,000	EA 4
01	7155-2200	FINAL ASSY PRINTER 7800A&B		1,000	EA 1

PARENT ITEM NO. DESCRIPTION CHASSIS ASSY 7800A&B BATCH QTY 1
7149-9600 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	1231-0001	HOUSING, 4CKT, AMP 640441-4		13,000	EA 4
04	1231-0002	HOUSING, 7CKT, AMP 640441-7		7,000	EA 4
04	1231-0003	HOUSING, 10 CKT, AMP 1-640441-0		15,000	EA 4
04	1231-0004	HOUSING, 15CKT, AMP 1-640441-5		8,000	EA 4
04	1232-0001	COVER, 4CKT, AMP 640550-4		12,000	EA 4
04	1232-0002	COVER, 7CKT, AMP 640550-7		10,000	EA 4
03	1232-0003	COVER, 10CKT, AMP 1-640550-0		14,000	EA 4
03	1232-0004	COVER, 15CKT, AMP 1-640550-5		8,000	EA 4
04	1250-0175	CONN, MOLEX 02-06-1132, FEM, TERM		7,000	EA 4
04	1250-0176	CONN, MOLEX 02-06-2132, MALE TRM		9,000	EA 4
04	1250-0190	CONN, MOLEX 03-06-2092, HSG 9PIN		1,000	EA 4
04	1250-0191	CONN, MOLEX 03-06-1091, HSG 9PIN		1,000	EA 4
03	1250-0236	CONN, AMP 2-520084-2, RCPT		4,000	EA 4
02	1252-0013	CLAMP, 3/16", HH SMITH 832		8,000	EA 4
02	2200-0087	SCREW, 6-32 X 3/8" PHIL PAN HD		13,000	EA 4
02	7149-9700	PANEL ASSEMBLY 7800A&B		1,000	EA 1
02	7149-9800	REAR PLATE ASSY 7800A&B		1,000	EA 1
02	7149-9900	CARD CAGE ASSY 7800A&B		1,000	EA 1
04	7150-1792	PCB WIRED GATING 7800A&B		1,000	EA 1
04	7150-2192	PCB WIRED FILTER/ALC 7800A&B		1,000	EA 1
04	7150-2292	PCB WIRED CAR OSC&AMP 7800A&B		1,000	EA 1

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7149-9600 TO-7149-9600

DATE 4/18/85
OPER CAC

PARENT ITEM NO. 7149-9600 DESCRIPTION CHASSIS ASSY 7800A&B ENGR DRAW BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	7150-2392	PCB WIRED SECT A-TRACE 7800A&B		1.000	EA 1
04	7150-2492	PCB WIRED SONA COUNTER 7800A&B		1.000	EA 1
04	7150-2592	PCB WIRED CONTOUR DISP 7800A&B		1.000	EA 1
02	7151-2000	RAIL, FRAME CENTER DSG		1.000	EA 2
04	7154-9393	PCB WIRED TIMING 7800B ONLY		1.000	EA 1
04	7154-9493	PCB WIRED, MEMORY 7800B ONLY		1.000	EA 1
04	7154-9593	PCB WIRED, COUNTER 7800B ONLY		1.000	EA 1
04	7154-9693	PCB WIRED, A-D 7800B ONLY		1.000	EA 1

PARENT ITEM NO. 7149-9700 DESCRIPTION PANEL ASSEMBLY 7800A&B ENGR DRAW BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	0371-0001	KNOB, 15MM, 26-15-311, LT GRAY		5.000	EA 4
04	0371-0004	KNOB, 15MM, 26-15-611, LT GRAY		2.000	EA 4
03	0371-0005	CAP, 15MM, 30-15-101, LT GRAY		6.000	EA 4
05	0371-0004	KNOB, 10MM, 26-103-11, LT GRAY		1.000	EA 4
03	0371-0011	CAP, 15MM, 30-15-105, BLUE		1.000	EA 4
04	0371-0013	CAP, 10MM, 30-10-101, LT GRAY		1.000	EA 4
03	0372-0001	BUTTON, GRAY, B309-GY CRL		44.000	EA 4
04	0372-0003	BUTTON, CREAM, B309-CR CRL		20.000	EA 4
04	0372-0005	BUTTON, BLUE, B309-BU CRL		2.000	EA 4
05	0683-0040	RES, 2700 OHM, CR25		1.000	EA 4
04	1111-0190	SPACER, 3/4" KEYSTONE #1450D		4.000	EA 4
05	1111-0268	SPACER, 1/4" RICHCO #MSP-4N		4.000	EA 4
03	1111-0269	SPACER, 1/2" RICHCO #MSP-BN		5.000	EA 4
04	1111-0271	SPACER, 1" LG, PLAS & MET #HTSP5		1.000	EA 4
03	1111-0329	BEZEL, RMP #140-1 W/RED FILTER		2.000	EA 4
03	1111-0330	BEZEL, RMP #140-2 W/RED FILTER		1.000	EA 4
05	1250-0008	CONN, UG625B/U, BNC RECEIPT		5.000	EA 4
04	1250-0165	CONN, TRW 50-20SN-10, DUAL 10PIN		1.000	EA 4
03	1410-0009	BUSHING, NYLON 974-402		1.000	EA 4
04	2100-0059	POT, 1K, 10 T, SPECTROL 534	12771-2	2.000	EA 4
04	2100-0078	POT, 5K, AB 70A4ND48L502U		2.000	EA 4
04	2100-0094	POT, 10K, AB 70A4ND48L103U		2.000	EA 4
04	2100-0191	POT, 10K, AB 70A4ND48L103A		1.000	EA 4
04	2100-0233	POT, 25K, AB 70A4ND48L253A		1.000	EA 4
03	2111-0004	JACK, SWITCHCRAFT 12A		2.000	EA 4
03	2111-0021	JACK, W/SWITCH, SC 13E		2.000	EA 4
03	2111-0022	JACK, SC 112B		1.000	EA 4
04	2200-0164	SCREW, 4-40 X 1/4" THUMB NYLON		1.000	EA 4
03	3104-0039	SWITCH, COMF#881K21810T02A02		1.000	EA 4
04	7145-9600	BRACKET, POT MTG		5.000	EA 4
04	7149-1094	PCB WIRED, DISP/FUNC 7800B ONLY		1.000	EA 1
04	7149-1295	PCB WIRED, RANGE FIL 7800B ONLY		1.000	EA 1
04	7149-1592	PCB CALIB/SCALE 7800A&B		1.000	EA 1
03	7149-1693	PCB WIRED GATING DISP 7800A&B		1.000	EA 1
04	7149-1792	PCB WIRED 4 DIGIT DISP 7800A&B		1.000	EA 1
04	7149-3893	PCB WIRED GAT BCD/BIN 7800A&B		1.000	EA 1
04	7149-9000	BRACKET, 10 TURN POT MTG DSG		1.000	EA 2
05	7150-0093	PCB WIRED VU METER 7800/7B13		1.000	EA 1
03	7150-0600	BRACKET PCB MTG LEFT DSG		2.000	EA 2
03	7150-0700	BRACKET, PCB MTG RIGHT DSG		4.000	EA 2
03	7150-0800	BRACKET, PCB MTG RIGHT DSG		6.000	EA 2
04	7150-2700	PANEL METER MOD SEE 1121-0009		1.000	EA 2
04	7150-2800	LENS SCREENED ON METER DSG		1.000	EA 2
04	7151-4001	FIGURE DIAL 15MM KAY01		4.000	EA 4
04	7151-4002	FIGURE DIAL, KAY01		1.000	EA 4
04	7151-4003	FIGURE DIAL, KAY01		1.000	EA 4
03	7154-6805	PANEL, DSG 7800B MOD & LATER		1.000	EA 4
04	7154-9893	PCB WIRED, REC/PLAY 7800B ONLY		1.000	EA 1
04	7154-9993	PCB WIRED ATTN/RANG 7800B/7B13B		1.000	EA 1
04	7155-0093	PCB WIRED, GATING 7800B ONLY		1.000	EA 1
04	7155-1393	PCB WIRED, DIS AT/FIL 7800B ONLY		1.000	EA 1

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7149-9800 TO-7149-9800

DATE 4/08/85
OPER CAC

PARENT ITEM NO.
7149-9800

DESCRIPTION REAR PLATE ASSY 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
03	0341-0017	STANDOFF,AMATON #8106-A-0256-B		2.000	EA 4
03	0542-0030	FEET,CORD WRAP,BUCKEYE		1.000	EA 4
05	1111-0274	POWER SPLY,POWER ONE#HCAA-60WA		1.000	EA 4
03	1111-0321	COVER,CONN,DAN PEPPER #10-9		1.000	EA 4
03	1111-0340	PLUG,HOLE,1/4",BLK NYLON KAY01		1.000	EA 4
03	1111-0341	PLUG,BLK NYL,PLAS & MET #DP625		2.000	EA 4
03	1111-0366	COVER,BLK,24 CN,DAN PEP#12-24R		1.000	EA 4
03	1111-0367	PLUG,7/16"BLK,PLAS & MET#DP437		11.000	EA 4
05	1250-0008	CONN, UG625B/U, BNC RECEIPT		4.000	EA 4
04	1250-0177	CONN, TRW DE-9ST, SOCKET 9-PIN		2.000	EA 4
04	1250-0180	CONN LATCHING BLOCK,TRW #SD-LB		4.000	EA 4
03	1250-0204	CONN,TRW DE-59-20,DUST CAP		1.000	EA 4
04	1252-0006	STRAIN RELIEF, HEYMAN SR5-P4		1.000	EA 4
03	1252-0010	CLAMP, GC ELECTR # 11-078-C		1.000	EA 4
03	1252-0012	CLIP, CABLE CLAMP RICHCO KCU-4		1.000	EA 4
04	1400-0003	FUSEHOLDER,LITTLEFUSE 348811		1.000	EA 4
04	1400-0004	CAP,HOLDER,RED,LITLFUSE 348001		1.000	EA 4
04	2110-0016	FUSE, 1-1/2 AMP, SLO-BLO		2.000	EA 4
03	2111-0024	JACK, POWER, SC 712A		1.000	EA 4
04	3101-0028	SWITCH,SWITCHCRAFT#46256LFRHU		1.000	EA 4
03	3104-0027	SWITCH,CENTRALAB #PB1		1.000	EA 4
05	7150-3892	PCB WIRED SWITCH PREAMP7800A&B		1.000	EA 1
03	7150-4304	PLATE, REAR 7800B		1.000	EA 2
05	7152-2600	SHIELD POWER SUPPLY		1.000	EA 2
03	7155-8300	CABLE ASSY.- R.P.(7800) 7815		1.000	EA 1
03	7158-3100	LOCK BUTTON FROM 0372-0003 DSG		1.000	EA 2
04	8120-0002	LINE CORD,BELDEN #17237B 6FT		1.000	EA 4

PARENT ITEM NO.
7149-9900

DESCRIPTION CARD CAGE ASSY 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	1111-0276	GUIDE,CARD,UNITRACK#KGB0690-6L		10.000	EA 4
05	1111-0277	GUIDE,CARD,UNITRACK#KGB0690-6R		10.000	EA 4
05	7150-2901	SPACER,ASM #1130-H-A-0.875-13		3.000	EA 4
05	7150-2902	SPACER, ASM #1130-H-A-1.625-13		4.000	EA 4
05	7150-3100	BAR,EXTRACTOR S(GEE 1111-0275)		2.000	EA 2
05	7150-3200	RAIL REAR DSG		1.000	EA 2
05	7150-3300	RAIL FRONT DSG		1.000	EA 2
05	7150-3400	RAIL,CENTER PCB SUPPORT DSG		1.000	EA 2
05	7150-3600	SPACER CARD CAGE DSG		1.000	EA 2
04	7150-4501	RAIL TOP DSG		2.000	EA 2
04	7150-4502	RAIL BOTTOM DSG		2.000	EA 2
05	7151-7400	BRACKET, SHIELD DSG		3.000	EA 2
05	7151-7500	SHIELD DSG		3.000	EA 2
05	7155-1093	PCB WIRED, MOTHER 7800B ONLY		1.000	EA 1

PARENT ITEM NO.
7150-0093

DESCRIPTION PCB WIRED VU METER 7800/7813
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0181-0010	CAP, 1.5MFDX63V, SPRAGUE 503D		1.000	EA 4
06	0201-0021	IC, MC1458CPI, MOT		1.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		2.000	EA 4
06	0683-0022	RES, 5600 OHM, CR25		1.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		4.000	EA 4
06	0683-0042	RES, 6800 OHM, CR25		1.000	EA 4
06	1210-0051	SOCKET,8PIN,FCI #LS0-308-T		1.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		1.000	EA 4
06	1910-0004	DIODE, 1N127A		2.000	EA 4
06	7150-0003	PCB 7800/7813		1.000	EA 4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7150-1792 TO-7150-1792DATE 4/08/85
OPER CAC

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PARENT ITEM NO.
7150-1792DESCRIPTION PCB WIRED GATING 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0001	CAP, .001MFDX100V CAPAR CEM		2.000	EA 4
05	0101-0011	CAP, .047MFDX100V CAPAR CEM		1.000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		6.000	EA 4
05	0102-0002	CAP, .47MFDX100V CAPAR CRM		2.000	EA 4
05	0141-0024	CAP, 200PF, ELMENCO #DM15-201		1.000	EA 4
05	0141-0027	CAP, 390PF, ELMENCO #DM15-391		1.000	EA 4
05	0141-0033	CAP, 330PF, ELMENCO #DM15-331		2.000	EA 4
05	0181-0003	CAP, 33MFDX25V, PAN#ECE-A1EK330		2.000	EA 4
05	0181-0013	CAP, 10MFDX35V, CAPAR #CLE-L		2.000	EA 4
05	0181-0016	CAP, .47MFDX50V, CAPAR #CLE-L		2.000	EA 4
05	0201-0029	IC, SN7400N, SIG		7.000	EA 4
05	0201-0040	IC, SN7490, SIG		1.000	EA 4
05	0201-0073	IC, N74193N, SIG		4.000	EA 4
05	0201-0078	IC, DM74123, NSC		6.000	EA 4
05	0201-0081	IC, NES55N, SIG		1.000	EA 4
05	0201-0089	IC, SN7476N, SIG		1.000	EA 4
05	0201-0090	IC, N7483N, SIG		4.000	EA 4
05	0201-0091	IC, DM8130N, NSC		2.000	EA 4
05	0201-0092	IC, DM8556, NSC		2.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		1.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		1.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		5.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		2.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		2.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		2.000	EA 4
05	0683-0045	RES, 22K OHM, CR25		11.000	EA 4
05	0683-0052	RES, 470K OHM, CR25		1.000	EA 4
05	1111-0278	EJEC, CARD, UNITRACK#L-1000-6-55		2.000	EA 4
05	1111-0299	JUMPER, ARIES #4-004-154YS		1.000	EA 4
06	1210-0051	SOCKET, 8PIN, PCI #LSO-308-T		1.000	EA 4
06	1210-0052	SOCKET, 14PIN, PCI #LSO-314-T		8.000	EA 4
05	1210-0053	SOCKET, 16 PIN, PCI #LSO-316-T		17.000	EA 4
05	1210-0054	SOCKET, 24PIN, PCI #LSO-624-T		2.000	EA 4
05	1854-0008	TRANS, PN3566 FSC NFN-SI		1.000	EA 4
05	1854-0108	TRANS, 2N3563 NSC NFN-SI		2.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		2.000	EA 4
05	7150-1702	PCB DSG		1.000	EA 4

PARENT ITEM NO.
7150-2192DESCRIPTION PCB WIRED FILTER/ALC 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0001	CAP, .001MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0003	CAP, .0022MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0007	CAP, .01MFDX100V CAPAR CEM		7.000	EA 4
05	0101-0008	CAP, .015MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		1.000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		11.000	EA 4
05	0141-0004	CAP, 5PF, ELMENCO #DM15-050		1.000	EA 4
05	0141-0006	CAP, 10PF, ELMENCO #DM15-100		2.000	EA 4
05	0141-0011	CAP, 24PF, ELMENCO #DM15-240		1.000	EA 4
05	0141-0012	CAP, 30PF, ELMENCO #DM15-300		2.000	EA 4
05	0141-0013	CAP, 39PF, ELMENCO #DM15-390		3.000	EA 4
05	0141-0019	CAP, 91PF, ELMENCO #DM15-910		2.000	EA 4
05	0141-0024	CAP, 200PF, ELMENCO #DM15-201		1.000	EA 4
05	0141-0025	CAP, 250PF, ELMENCO #DM15-251		1.000	EA 4
05	0141-0030	CAP, 680PF, ELMENCO #DM15-681		2.000	EA 4
06	0141-0035	CAP, 1000PF, ELMENCO #DM15-102J		12.000	EA 4
05	0181-0008	CAP, 2.2MFDX50V, PAN#ECE-A1HK2R2		2.000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		1.000	EA 4
06	0201-0021	IC, MC1458CPI, MOT		1.000	EA 4
06	0201-0138	IC, CA3140AE, RCA		4.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		4.000	EA 4
05	0683-0018	RES, 1800 OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		3.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		4.000	EA 4
06	0683-0022	RES, 5600 OHM, CR25		3.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		6.000	EA 4
05	0683-0025	RES, 15K OHM, CR25		2.000	EA 4
05	0683-0026	RES, 47K OHM, CR25		8.000	EA 4
05	0683-0038	RES, 1500 OHM, CR25		1.000	EA 4
05	0683-0041	RES, 3300 OHM, CR25		1.000	EA 4
06	0683-0042	RES, 6800 OHM, CR25		1.000	EA 4
05	0683-0044	RES, 18K OHM, CR25		1.000	EA 4
05	0683-0046	RES, 33K OHM, CR25		12.000	EA 4
05	0683-0047	RES, 100K OHM, CR25		17.000	EA 4
05	0683-0048	RES, 180K OHM, CR25		1.000	EA 4
05	0683-0050	RES, 270K OHM, CR25		1.000	EA 4
05	0683-0077	RES, 6200 OHM, CR25		1.000	EA 4

PARENT ITEM NO.
7150-2192DESCRIPTION PCB WIRED FILTER/ALC 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0684-0076	RES, 27 OHM CR37 MEPCO/ELECTRA			
05	0685-0072	RES, 5100 OHM, ITDKA		2.000	EA 4
05	1111-0278	EJEC, CARD, UNITRACK#L-1000-6-55		1.000	EA 4
05	1210-0045	SOCKET, TRANS, GARRY 440-B4-CC-D		2.000	EA 4
06	1210-0051	SOCKET, 8PIN, FCI #LS0-308-T		3.000	EA 4
05	1854-0108	TRANS, 2N3563 NSC	NFN-SI	5.000	EA 4
05	1860-0003	TRANS, 3N138 RCA	FET	1.000	EA 4
06	1860-0026	TRANS, 2N5033-18 NSC		3.000	EA 4
06	1910-0004	DIODE, 1N127A		9.000	EA 4
05	2100-0034	POT, 500 OHM, BECKMAN 72FMR500		4.000	EA 4
05	2100-0080	POT, 5K, BECKMAN 72FMR5K		1.000	EA 4
06	2100-0096	POT, 10K, BECKMAN 72FMR10K		1.000	EA 4
06	2100-0097	POT, 10K, BECKMAN 72XWR10K		2.000	EA 4
05	7083-6001	FIL, NAR 540HZ TESTED ONLY		5.000	EA 4
05	7150-2102	PCB DSG		1.000	EA 4
05	7150-4100	FILTER ASSY PF120/6000 7800A&B		1.000	EA 4
05	9100-0030	CHOKE, 1 MH AIRCO 1331035J		.500	EA 1
06	9143-0033	BRACKET, FF14/B-SA	TDK	1.000	EA 4
06	9143-0034	BOBBIN, BF14/B-612	TDK	8.000	EA 4
06	9143-0036	TRIMMER, TB3.0-4D1-S	TDK	8.000	EA 4
06	9143-0038	CUP CORE, H6H3P140B/A160N-52H		8.000	EA 4

PARENT ITEM NO.
7150-2292DESCRIPTION PCB WIRED CAR OSC&AMP 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0011	CAP, .047MFDX100V CAPAR CEM			
05	0101-0012	CAP, .068MFDX100V CAPAR CEM		5.000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		2.000	EA 4
05	0102-0002	CAP, .47MFDX100V CAPAR CRM		2.000	EA 4
05	0141-0015	CAP, 62PF, ELMENCO #DM15-620		1.000	EA 4
05	0141-0024	CAP, 200PF, ELMENCO #DM15-201		1.000	EA 4
05	0141-0027	CAP, 390PF, ELMENCO #DM15-391		2.000	EA 4
06	0181-0005	CAP, 4.7MFDX35V, PAN#ECE-A1VK4R7		2.000	EA 4
05	0181-0007	CAP, 22MFDX35V, PAN#ECE-A1VK220		4.000	EA 4
05	0181-0013	CAP, 10MFDX35V, CAPAR #CLE-L		4.000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		4.000	EA 4
05	0181-0015	CAP, 100MFDX35V, CAPAR #CLE-L		1.000	EA 4
06	0201-0021	IC, MC1458CPI, MOT		1.000	EA 4
05	0201-0043	IC, ICL8038CC, INTERSIL		1.000	EA 4
05	0201-0079	IC, MC7805CT, MOT		1.000	EA 4
05	0201-0082	IC, NE555AN, SIG		1.000	EA 4
05	0201-0086	IC, LM317T, NSC		1.000	EA 4
05	0201-0087	IC, LM337T, NSC		1.000	EA 4
06	0201-0095	IC, CD4016AE, NSC		1.000	EA 4
05	0201-0102	IC, TL441CN, TI		1.000	EA 4
05	0201-0104	IC, CD4011AE, RCA		1.000	EA 4
06	0201-0138	IC, CA3140AE, RCA		1.000	EA 4
05	0201-0142	IC, DM54123T, NSC		7.000	EA 4
05	0668-0017	RES, 3.3K OHM, 2%, CS, RL20S332G		1.000	EA 4
05	0668-0024	RES, 10K OHM, 2%, CS, RL20S103G		3.000	EA 4
05	0668-0035	RES, 120K OHM, 2%, CS, RL20S124G		2.000	EA 4
05	0668-0038	RES, 1MEG OHM, 2%, CS, RL20S105G		1.000	EA 4
05	0668-0040	RES, 20K OHM, 2%, CS, RL20S203G		1.000	EA 4
05	0668-0043	RES, 4.7K OHM, 2%, CS, RL20S472G		2.000	EA 4
05	0682-0026	RES, 120 OHM, 5%, AB# CB1215		1.000	EA 4
05	0683-0009	RES, 68 OHM, CR25		2.000	EA 4
06	0683-0010	RES, 100 OHM, CR25		2.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		2.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		1.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		2.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		3.000	EA 4
05	0683-0020	RES, 3900 OHM, CR25		6.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		1.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		1.000	EA 4
05	0683-0026	RES, 47K OHM, CR25		8.000	EA 4
05	0683-0028	RES, 2.2 MEG OHM, CR25		1.000	EA 4
05	0683-0036	RES, 680 OHM, CR25		1.000	EA 4
05	0683-0037	RES, 820 OHM, CR25		1.000	EA 4
05	0683-0038	RES, 1500 OHM, CR25		1.000	EA 4
05	0683-0039	RES, 2K OHM, CR25		1.000	EA 4
05	0683-0040	RES, 2700 OHM, CR25		2.000	EA 4
05	0683-0041	RES, 3300 OHM, CR25		1.000	EA 4
				4.000	EA 4

PARENT ITEM NO.
7150-2292DESCRIPTION PCB WIRED CAR OSC&AMP 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0683-0042	RES, 6800 OHM, CR25		1.000	EA 4
05	0683-0043	RES, 12K OHM, CR25		2.000	EA 4
05	0683-0045	RES, 22K OHM, CR25		2.000	EA 4
05	0683-0049	RES, 220K OHM, CR25		2.000	EA 4
05	0683-0054	RES, 39K OHM, CR25		1.000	EA 4
05	0683-0064	RES, 510 OHM, CR25		1.000	EA 4
05	0683-0065	RES, 68K OHM, CR25		1.000	EA 4
05	0683-0071	RES, 7500 OHM, CR25		1.000	EA 4
05	0683-0072	RES, 27K OHM, CR25		1.000	EA 4
05	0683-0077	RES, 6200 OHM, CR25		3.000	EA 4
05	0683-0082	RES 56 OHM CR25		1.000	EA 4
05	0685-0034	RES, 110 OHM, ITOKA		1.000	EA 4
05	0685-0065	RES, 2400 OHM, ITOKA		1.000	EA 4
05	1111-0278	EJEC,CARD,UNITRACK#L-1000-6-55		2.000	EA 4
05	1210-0045	SOCKET,TRANS,GARRY 440-B4-CC-D		1.000	EA 4
06	1210-0051	SOCKET,8PIN,PCI #LS0-308-T		8.000	EA 4
06	1210-0052	SOCKET,14PIN,PCI #LS0-314-T		4.000	EA 4
05	1210-0053	SOCKET 16 PIN,PCI #LS0-316-T		2.000	EA 4
05	1853-0101	TRANS, PN3638A FSC PNP-SI		1.000	EA 4
05	1854-0108	TRANS, 2N3563 NSC NPN-SI		2.000	EA 4
05	1860-0003	TRANS, 3N138 RCA FET		1.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		6.000	EA 4
06	1910-0004	DIODE, 1N127A		2.000	EA 4
05	2100-0057	POT,1K, BECKMAN 72FMR1K		2.000	EA 4
05	2100-0067	POT,2K, BECKMAN 72FMR2K		1.000	EA 4
05	2100-0080	POT,5K, BECKMAN 72FMR5K		4.000	EA 4
06	2100-0096	POT,10K, BECKMAN 72FMR10K		1.000	EA 4
05	2100-0112	POT,20K, BECKMAN 72FMR20K		3.000	EA 4
05	2100-0127	POT,50K, BECKMAN 72FMR50K		2.000	EA 4
05	3101-0041	SWITCH,C&K #L202-01-1-M6-02-GA		1.000	EA 4
05	7150-2202	PCB DGG		1.000	EA 4
05	9100-0038	CHOKE, 10MH AIRCO 1313030J		4.000	EA 4

PARENT ITEM NO.
7150-2392DESCRIPTION PCB WIRED SECT A-TRACE 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0001	CAP, .001MFDX100V CAPAR CEM		2.000	EA 4
05	0101-0003	CAP, .0022MFDX100V CAPAR CEM		4.000	EA 4
05	0101-0005	CAP, .0047MFDX100V CAPAR CEM		1.000	EA 4
05	0101-0007	CAP, .01MFDX100V CAPAR CEM		4.000	EA 4
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		3.000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		3.000	EA 4
05	0102-0002	CAP, .47MFDX100V CAPAR CRM		1.000	EA 4
05	0141-0025	CAP, 250PF, ELMENDO #DM15-251		1.000	EA 4
05	0141-0027	CAP, 390PF, ELMENDO #DM15-391		2.000	EA 4
05	0141-0029	CAP, 500PF, ELMENDO #DM15-501		2.000	EA 4
05	0141-0030	CAP, 680PF, ELMENDO #DM15-681		1.000	EA 4
06	0181-0005	CAP, .47MFDX35V, PAN#ECE-A1UK4R7		7.000	EA 4
05	0181-0006	CAP, .22MFDX50V, PAN#ECE-A1HK2R2		1.000	EA 4
05	0181-0009	CAP, 1MFDX63V, SFRAGUE 503D		2.000	EA 4
05	0181-0013	CAP, 10MFDX35V, CAPAR #CLE-L		1.000	EA 4
05	0201-0006	IC, LM311N, NSC		4.000	EA 4
06	0201-0021	IC, MC1458CF1, MOT		3.000	EA 4
05	0201-0078	IC, DM74123, NSC		3.000	EA 4
05	0201-0081	IC, NE555N, SIG		2.000	EA 4
05	0201-0139	IC, NE5532, SIG		2.000	EA 4
05	0682-0090	RES, 110K OHM, 5%, AB# CR1145		1.000	EA 4
05	0683-0005	RES, 22 OHM, CR25		1.000	EA 4
06	0683-0010	RES, 100 OHM, CR25		4.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		2.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		2.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		5.000	EA 4
05	0683-0018	RES, 1800 OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		6.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		9.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		9.000	EA 4
05	0683-0025	RES, 15K OHM, CR25		1.000	EA 4
05	0683-0026	RES, 47K OHM, CR25		1.000	EA 4
05	0683-0038	RES, 1500 OHM, CR25		2.000	EA 4
05	0683-0040	RES, 2700 OHM, CR25		1.000	EA 4
05	0683-0041	RES, 3300 OHM, CR25		5.000	EA 4
06	0683-0042	RES, 6800 OHM, CR25		7.000	EA 4
05	0683-0045	RES, 22K OHM, CR25		1.000	EA 4
05	0683-0046	RES, 33K OHM, CR25		1.000	EA 4
05	0683-0047	RES, 100K OHM, CR25		4.000	EA 4
05	0683-0051	RES, 430K OHM, CR25		1.000	EA 4
05	0683-0055	RES, 75 K, CR25		1.000	EA 4
05	0683-0056	RES, 120K, CR25		1.000	EA 4
05	0683-0059	RES, 560 OHM, CR25		1.000	EA 4
05	0683-0062	RES, 3K OHM, CR25		2.000	EA 4
05	0683-0065	RES, 68K OHM, CR25		1.000	EA 4
06	0683-0067	RES, 150K OHM, CR25		1.000	EA 4
05	0683-0068	RES, 200 OHM, CR25		1.000	EA 4

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LL CU	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM	TYPE
05	0683-0073	RES, 750K OHM, CR25				
05	0685-0072	RES, 5100 OHM, ITOKA		1.000	EA	4
05	1111-0278	FUSE, CARD, UNTRACKED-1000 6-30		1.000	EA	4
05	1210-0045	SOCKET, TRANS, GARRY 440 14-CC-P		2.000	EA	4
06	1210-0051	SOCKET, 8PIN, PCI #150-30R-1		3.000	EA	4
05	1210-0053	SOCKET 16 PIN, PCI #150-316-T		11.000	FA	4
05	1853-0101	TRANS, 1N4338A FSC	ENR-51	3.000	FA	4
05	1854-0008	TRANS, 1N3506 FSC	NEN-51	4.000	FA	4
05	1854-0108	TRANS, 1N4363 NSC	NEN-51	5.000	FA	4
06	1860-0003	TRANS, 1N4351 RCA		1.000	FA	4
05	1901-0015	DIODE, 1N4440, FSC		3.000	FA	4
05	2100-0034	POT, 500 OHM, BECKMAN 724N1000		3.000	FA	4
05	2100-0037	POT, 1K OHM, BECKMAN 724N1000		1.000	FA	4
05	2100-0038	POT, 5K OHM, BECKMAN 724N1000		4.000	FA	4
05	2100-0039	POT, 10K OHM, BECKMAN 724N1000		1.000	FA	4
05	2100-0105	POT, 100K OHM, BECKMAN 724N1000		3.000	FA	4
05	2100-0300	PCR JSG		1.000	EA	4
				1.000	FA	4

PARENT ITEM NO.
6109-4322

DESCRIPTION OF WIRED SONG COUNTER 7800A&B
1997 REVISED

BATCH COPY 1

ITEM	COMPONENT	DESCRIPTION	ENGINEERING	QUANTITY	ITEM
ID	ITEM NO.		DRAWING NUMBER		TYPE
01	0101-0001	CAP, 100PF,100V CAPAC CEM			
05	0101-0007	CAP, 100PF,100V CAPAC CEM		5,000	FA 4
05	0101-0008	CAP, 100PF,100V CAPAC CEM		5,000	FA 4
06	0101-0013	CAP, 100PF,100V CAPAC CEM		1,000	FA 4
05	0101-0004	CAP, 100PF,100V CAPAC CEM		9,000	FA 4
06	0141-0025	CAP, 100PF,100V CAPAC CEM		2,000	FA 4
05	0141-0025	CAP, 100PF,100V CAPAC CEM		2,000	FA 4
05	0141-0026	CAP, 100PF,100V CAPAC CEM		2,000	FA 4
05	0101-0001	CAP, 100PF,100V CAPAC CEM		1,000	FA 4
05	0101-0013	CAP, 100PF,100V CAPAC CEM		2,000	FA 4
05	0101-0001	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0005	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0052	IC, 7413, IN, NSC		2,000	FA 4
05	0101-0053	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0054	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0055	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0056	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0057	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0075	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0076	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0077	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0078	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0079	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0080	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0081	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0082	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0083	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0084	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0085	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0086	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0087	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0088	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0089	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0090	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0091	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0092	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0093	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0094	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0095	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0096	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0097	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0098	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0099	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0100	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0101	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0102	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0103	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0104	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0105	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0106	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0107	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0108	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0109	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0110	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0111	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0112	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0113	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0114	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0115	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0116	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0117	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0118	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0119	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0120	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0121	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0122	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0123	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0124	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0125	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0126	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0127	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0128	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0129	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0130	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0131	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0132	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0133	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0134	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0135	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0136	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0137	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0138	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0139	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0140	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0141	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0142	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0143	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0144	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0145	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0146	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0147	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0148	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0149	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0150	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0151	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0152	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0153	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0154	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0155	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0156	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0157	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0158	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0159	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0160	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0161	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0162	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0163	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0164	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0165	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0166	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0167	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0168	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0169	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0170	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0171	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0172	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0173	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0174	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0175	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0176	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0177	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0178	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0179	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0180	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0181	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0182	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0183	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0184	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0185	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0186	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0187	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0188	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0189	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0190	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0191	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0192	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0193	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0194	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0195	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0196	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0197	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0198	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0199	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0200	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0201	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0202	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0203	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0204	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0205	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0206	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0207	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0208	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0209	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0210	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0211	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0212	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0213	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0214	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0215	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0216	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0217	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0218	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0219	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0220	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0221	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0222	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0223	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0224	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0225	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0226	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0227	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0228	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0229	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0230	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0231	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0232	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0233	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0234	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0235	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0236	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0237	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0238	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0239	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0240	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0241	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0242	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0243	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0244	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0245	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0246	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0247	IC, 7413, IN, NSC		1,000	FA 4
05	0101-0248	IC, 7413, IN, NSC		1	

PARENT ITEM NO.
7150-2592DESCRIPTION PCB WIRED CONTOUR DISP 7800AAB
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0001	CAP, .001MFDX100V CAPAR CEM		3,000	EA 4
05	0101-0008	CAP, .015MFDX100V CAPAR CEM		4,000	EA 4
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		7,000	EA 4
05	0101-0010	CAP, .033MFDX100V CAPAR CEM		2,000	EA 4
05	0101-0011	CAP, .047MFDX100V CAPAR CEM		1,000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		2,000	EA 4
05	0101-0015	CAP, .22MFDX100V CAPAR CEM		1,000	EA 4
05	0141-0020	CAP, 100PF, ELEMENTO #DM15-101		1,000	EA 4
05	0141-0024	CAP, 200PF, ELEMENTO #DM15-201		1,000	EA 4
05	0141-0029	CAP, 500PF, ELEMENTO #DM15-501		3,000	EA 4
05	0141-0036	CAP, 600PF, ELEMENTO #DM15-601		1,000	EA 4
05	0141-0033	CAP, 530PF, ELEMENTO #DM15-331		1,000	EA 4
06	0181-0003	CAP, 4.7MFDX35V, PANSECE-A1UKR7		2,000	EA 4
05	0181-0007	CAP, 22MFDX35V, PANSECE-A1UKR20		2,000	EA 4
05	0181-0013	CAP, 10MFDX35V, CAPAR #OLE-1		3,000	EA 4
05	0201-0006	IC, LM311N, NSC		1,000	EA 4
06	0201-0021	IC, MC1458CPI, MOT		1,000	EA 4
05	0201-0078	IC, DM74123, NSC		1,000	EA 4
05	0201-0081	IC, NE555N, SIG		1,000	EA 4
05	0201-0083	IC, LM324, NSC		2,000	EA 4
06	0201-0138	IC, CA3140AE, RCA		2,000	EA 4
05	0682-0026	RES, 120 OHM, 5%, AB# CB1215		1,000	EA 4
05	0683-0003	RES, 10 OHM, CR25		1,000	EA 4
05	0682-0009	RES, 68 OHM, CR25		1,000	EA 4
06	0683-0010	RES, 100 OHM, CR25		2,000	EA 4
05	0683-0012	RES, 220 OHM, CR25		1,000	EA 4
06	0683-0015	RES, 470 OHM, CR25		3,000	EA 4
06	0683-0016	RES, 1K OHM, CR25		7,000	EA 4
06	0683-0017	RES, 1200 OHM, CR25		2,000	EA 4
05	0683-0018	RES, 1800 OHM, CR25		5,000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		4,000	EA 4
05	0683-0020	RES, 3900 OHM, CR25		3,000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		13,000	EA 4
06	0683-0022	RES, 5600 OHM, CR25		2,000	EA 4
05	0683-0023	RES, 8200 OHM, CR25		2,000	EA 4
06	0683-0024	RES, 10K OHM, CR25		5,000	EA 4
05	0683-0025	RES, 15K OHM, CR25		2,000	EA 4
05	0683-0026	RES, 47K OHM, CR25		2,000	EA 4
05	0683-0027	RES, 56K OHM, CR25		1,000	EA 4
05	0683-0034	RES, 390 OHM, CR25		2,000	EA 4
05	0683-0035	RES, 620 OHM, CR25		1,000	EA 4
05	0683-0036	RES, 680 OHM, CR25		2,000	EA 4
05	0683-0037	RES, 820 OHM, CR25		1,000	EA 4
05	0683-0040	RES, 2700 OHM, CR25		9,000	EA 4
05	0683-0041	RES, 3300 OHM, CR25		1,000	EA 4
06	0683-0042	RES, 6800 OHM, CR25		1,000	EA 4
05	0683-0043	RES, 12K OHM, CR25		1,000	EA 4
05	0683-0045	RES, 22K OHM, CR25		10,000	EA 4
05	0683-0048	RES, 180K OHM, CR25		2,000	EA 4
05	0683-0050	RES, 470K OHM, CR25		2,000	EA 4
05	0683-0054	RES, 39K OHM, CR25		1,000	EA 4
05	0683-0055	RES, 330K OHM, CR25		1,000	EA 4
05	0683-0058	RES, 680K OHM, CR25		4,000	EA 4
05	0683-0059	RES, 560 OHM, CR25		1,000	EA 4
05	0683-0061	RES, 390K OHM, CR25		1,000	EA 4
05	0683-0064	RES, 510 OHM, CR25		1,000	EA 4
05	0683-0065	RES, 68K OHM, CR25		2,000	EA 4
05	0683-0066	RES, 82K OHM, CR25		1,000	EA 4
05	0683-0068	RES, 200 OHM, CR25		2,000	EA 4
05	0683-0070	RES, 24K OHM, CR25		1,000	EA 4
05	0683-0076	RES, 51 OHM, CR25		1,000	EA 4
05	1141-0278	PLUG, CARD, UNITRACK#1-1000-6-55		2,000	EA 4
05	1210-0045	SOCKET, TRANS, GARRY 440-B4-CC-D		1,000	EA 4
06	1210-0051	SOCKET, 8PIN, PCI #LSO-30R-1		5,000	EA 4
06	1210-0052	SOCKET, 14PIN, PCI #LSO-314-T		2,000	EA 4
05	1210-0053	SOCKET 16 PIN, PCI #LSO-316-T		1,000	EA 4
05	1853-0101	TRANS, FN3638A FSC PNP-SI		1,000	EA 4
05	1854-0008	TRANS, FN3566 FSC NPN-SI		2,000	EA 4
05	1854-0106	TRANS, 2N3563 NSC NPN-SI		2,000	EA 4
05	1860-0003	TRANS, 3N138 RCA FET		1,000	EA 4
06	1860-0026	TRANS, 2N5033-18 NSC		9,000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		18,000	EA 4
05	2100-0011	POT, 100 OHM, BECKMAN 72PMR100		1,000	EA 4
05	2100-0057	POT, 1K, BECKMAN 72PMR1K		1,000	EA 4
05	2100-0067	POT, 2K, BECKMAN 72PMR2K		1,000	EA 4
05	2100-0080	POT, 5K, BECKMAN 72PMR5K		1,000	EA 4
06	2100-0096	POT, 10K, BECKMAN 72PMR10K		1,000	EA 4
05	3101-0041	SWITCH, C&K #L202-01-1-MS-02-GA		1,000	EA 4
05	7150-2502	PCB DSG		1,000	EA 4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM 7150-3892 TO 7150-3892

DATE 4/08/85
OPER CAC

PARENT ITEM NO.
7150-3892

DESCRIPTION PCB WIRED SWITCH PREAMP 7800A&B
ENGR DRAW

BATCH QTY 1

LI CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0181-0005	CAP, 4.7MFDX35V, PAN#ECE-A10K4R7		2.000	EA 4
06	0201-0095	IC, CD4016AE, NSC		1.000	EA 4
06	0201-0138	IC, CA3140AE, RCA		1.000	EA 4
06	0683-0010	RES, 100 OHM, CR25		1.000	EA 4
06	0683-0014	RES, 1K OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		2.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		1.000	EA 4
06	0683-0042	RES, 6800 OHM, CR25		4.000	EA 4
06	0683-0078	RES, 9100 OHM, CR25		1.000	EA 4
06	1210-0051	SOCKET, 8PIN, PCI #150 308-1		4.000	EA 4
06	1210-0052	SOCKET, 14PIN, PCI #150 314-1		1.000	EA 4
06	1230-0001	HEADFR, 4CKT, AMP 640456-4		1.000	EA 4
06	1230-0003	HEADFR, 10 CKT, AMP 1-640454-0		2.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		1.000	EA 4
06	2100-0096	FOI, 10K, BECKMAN 72PMR10K		7.000	EA 4
06	7150-3892	PCB DRG.		1.000	EA 4
				1.000	EA 4

PARENT ITEM NO.
7150-3892

DESCRIPTION CABLE ASSY ELEC/MIC 7800A&B
ENGR DRAW 715039

BATCH QTY 1

LI CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
02	1250-0178	CONN, TRW DE-9PIL PLUG, 9-PIN		2.000	EA 4
02	1250-0181	CONN, TRW SDH-9BL, HOOD ADAPTOR		2.000	EA 4
02	8155-0033	CABLE, 7 COND, SHIELDED	B15781	6.000	FT 4

PARENT ITEM NO.
7150-4100

DESCRIPTION FILTER ASSY PF120/6000 7800A&B
ENGR DRAW

BATCH QTY 1

LI CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0141-0014	CAP, 50PF, ELMENCO #DM15-500		1.000	EA 4
06	0141-0016	CAP, 68PF, ELMENCO #DM15-680		2.000	EA 4
06	0141-0018	CAP, 82PF, ELMENCO #DM15-820		2.000	EA 4
06	0141-0022	CAP, 150PF, ELMENCO #DM15-151		2.000	EA 4
06	0141-0035	CAP, 1000PF, ELMENCO #DM15-1001		2.000	EA 4
06	1860-0026	TRANS, 2N5033-18 NSC		12.000	EA 4
06	2100-0097	POT, 10K, BECKMAN 72XWR10K		6.000	EA 4
06	7094-5003	FIL NAR 200KHZ ERIE#900-259-10		2.000	EA 4
06	9100-0035	CRKIN, 5.1 MH ALPAC 13130231		1.000	EA 4
06	9143-0033	BRGENT, EP1478-3A TDK		1.000	EA 4
06	9143-0034	ROBBIN, BP1478-612 TDK		4.000	EA 4
06	9143-0036	TRIMMER, TB3, 0-401-S TDK		4.000	EA 4
06	9143-0038	CUP CORE, H6H3P140B/A160N-52H		4.000	EA 4

PARENT ITEM NO.
7154-9393

DESCRIPTION PCB WIRED TIMING 7800B ONLY
ENGR DRAW

BATCH QTY 1

LI CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0141-0009	CAP, 18PF, ELMENCO #DM15-180		1.000	EA 4
06	0141-0017	CAP, 75PF, ELMENCO #DM15-750		1.000	EA 4
06	0141-0025	CAP, 250PF, ELMENCO #DM15-251		1.000	EA 4
06	0141-0029	CAP, 500PF, ELMENCO #DM15-501		1.000	EA 4
06	0181-0013	CAP, 10MFDX35V, CAPAR #ELE 1		1.000	EA 4
06	0201-0039	IC, SN7475, SIG		4.000	EA 4
06	0201-0041	IC, SN7492N, SIG		2.000	EA 4
06	0201-0053	IC, SN7401N, SIG		1.000	EA 4
06	0201-0071	IC, 9312FC, FSC		2.000	EA 4
06	0201-0078	IC, DM74123, NSC		1.000	EA 4
06	0201-0127	IC, DM74LS08N, NSC		2.000	EA 4
06	0201-0134	IC, DM74LS193N, NSC		2.000	EA 4
06	0201-0140	IC, 74LS00N, NSC		1.000	EA 4
06	0201-0145	IC, SN74LS76AN, MOT		2.000	EA 4
06	0201-0146	IC, SN74LS163AN, TI		4.000	EA 4
06	0683-0013	RES, 270 OHM, CR25		1.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		3.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		2.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		4.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		5.000	EA 4
06	1111-0278	EJEC, CARB, UNITRACK#L-1000-6-55		7.000	EA 4
06	1111-0282	OSC, CRYSTAL, 18.432 MHZ KAY01		2.000	EA 4
				1.000	EA 4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7154-9393 TO-7154-9393

DATE 4/18/85
OPER CAC

PARENT ITEM NO. DESCRIPTION PCB WIRED TIMING 7800B ONLY BATCH QTY
7154-9393 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	1210-0052	SOCKET,14PIN,PCI #LS0-314-T		7,000	EA 4
05	1210-0053	SOCKET 16 PIN,PCI #LS0-316-T		12,000	EA 4
05	1210-0055	SOCKET,20 PIN,PCI #LS0-320-T		2,000	EA 4
05	7154-9200	FROM, PROGRAMMED (0201-0136)		1,000	EA 2
05	7154-9302	PCB		1,000	EA 4
05	7160-5800	FROM PROGRAMMED (0201-0136)		1,000	EA 2

PARENT ITEM NO. DESCRIPTION PCB WIRED, MEMORY 7800B ONLY BATCH QTY
7154-9493 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0007	CAP, .01MFDX100V CAPAR CEM		12,000	EA 4
05	0181-0013	CAP, 10MFDX35V,CAPAR #CLE-L		1,000	EA 4
05	0201-0161	IC, 74S241, TI		2,000	EA 4
05	0201-0164	IC, UPI 4164C-2, NFC		24,000	EA 4
05	0683-0002	RES, 4.7 OHM, CR25		4,000	EA 4
05	1111-0278	EJEC,CARD,UNITRACK#L-1000-6-55		2,000	EA 4
05	1111-0288	RES NET,BOURNS#4114R-002-102		1,000	EA 4
06	1210-0052	SOCKET,14PIN,PCI #LS0-314-T		1,000	EA 4
05	1210-0053	SOCKET 16 PIN,PCI #LS0-316-T		24,000	EA 4
05	1210-0055	SOCKET,20 PIN,PCI #LS0-320-T		2,000	EA 4
05	7154-9403	PCB DSG		1,000	EA 4

PARENT ITEM NO. DESCRIPTION PCB WIRED, COUNTER 7800B ONLY BATCH QTY
7154-9593 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		1,000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		1,000	EA 4
05	0141-0006	CAP,10PF,ELMENDO #DM15-100		1,000	EA 4
05	0141-0025	CAP,250PF,ELMENDO #DM15-251		1,000	EA 4
05	0141-0028	CAP,470PF,ELMENDO #DM15-471		1,000	EA 4
05	0141-0032	CAP,820PF,ELMENDO #DM15-821		1,000	EA 4
05	0181-0013	CAP, 10MFDX35V,CAPAR #CLE-L		5,000	EA 4
05	0201-0029	IC, SN7400N, SIG		3,000	EA 4
05	0201-0039	IC, SN7475, SIG		4,000	EA 4
05	0201-0053	IC, N7401N, SIG		8,000	EA 4
05	0201-0073	IC, N74193N, SIG		8,000	EA 4
05	0201-0078	IC, DM74123,NSC		2,000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1,000	EA 4
06	0683-0016	RES, 1K OHM, CR25		2,000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		1,000	EA 4
06	0683-0024	RES, 10K OHM, CR25		4,000	EA 4
05	0683-0034	RES, 390 OHM, CR25		1,000	EA 4
05	0683-0045	RES, 22K OHM, CR25		2,000	EA 4
05	1111-0278	EJEC,CARD,UNITRACK#L-1000-6-55		2,000	EA 4
06	1210-0052	SOCKET,14PIN,PCI #LS0-314-T		11,000	EA 4
05	1210-0053	SOCKET 16 PIN,PCI #LS0-316-T		13,000	EA 4
05	7154-9503	PCB DSG		1,000	EA 4

PARENT ITEM NO. DESCRIPTION PCB WIRED, A-D 7800B ONLY BATCH QTY
7154-9693 ENGR DRAW

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0001	CAP, .001MFDX100V CAPAR CEM		1,000	EA 4
05	0101-0002	CAP, .0015MFDX100V CAPAR CEM		2,000	EA 4
05	0101-0004	CAP, .0033MFDX100V CAPAR CEM		2,000	EA 4
06	0101-0013	CAP, .1MFDX100V CAPAR		3,000	EA 4
06	0141-0014	CAP,50PF,ELMENDO #DM15-500		1,000	EA 4
06	0141-0022	CAP,150PF,ELMENDO #DM15-151		1,000	EA 4
05	0141-0026	CAP,300PF,ELMENDO #DM15-301		1,000	EA 4
05	0141-0030	CAP,680PF,ELMENDO #DM15-681		1,000	EA 4
05	0181-0013	CAP, 10MFDX35V,CAPAR #CLE-L		9,000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		2,000	EA 4
06	0201-0021	IC, MC1458CPI, MOT		2,000	EA 4
05	0201-0029	IC, SN7400N, SIG		1,000	EA 4
05	0201-0039	IC, SN7475, SIG		6,000	EA 4
05	0201-0053	IC, N7401N, SIG		1,000	EA 4
05	0201-0078	IC, DM74123,NSC		1,000	EA 4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7154-9693 TO-7154-9693DATE 4/08/85
OPER CAC

PARENT ITEM NO.	DESCRIPTION PCB WIRED, A-D 7800B ONLY	BATCH QTY	1
7154-9693	ENGR DRAW		
05	0201-0124 IC, SN74LS244N, TI	2.000	EA 4
06	0201-0138 IC, CA3140AE, RCA	7.000	EA 4
05	0201-0145 IC, SN74LS76AN, MOT	1.000	EA 4
05	0201-0168 IC, AD565AJD, ANALOG	2.000	EA 4
05	0201-0169 IC, AD578KN, ANALOG	1.000	EA 4
05	0667-0008 RES, 51 OHM, 2%, C4, RL07S510G	2.000	EA 4
05	0682-0091 RES, 120K OHM, 5%, AB# CB1245	1.000	EA 4
05	0683-0008 RES, 47 OHM, CR25	4.000	EA 4
05	0683-0011 RES, 150 OHM, CR25	2.000	EA 4
05	0683-0012 RES, 220 OHM, CR25	1.000	EA 4
06	0683-0014 RES, 330 OHM, CR25	1.000	EA 4
06	0683-0016 RES, 1K OHM, CR25	10.000	EA 4
06	0683-0017 RES, 1200 OHM, CR25	1.000	EA 4
06	0683-0019 RES, 2200 OHM, CR25	4.000	EA 4
06	0683-0024 RES, 10K OHM, CR25	7.000	EA 4
05	0683-0037 RES, 420 OHM, CR25	2.000	EA 4
05	0683-0038 RES, 1500 OHM, CR25	2.000	EA 4
05	0683-0039 RES, 2K OHM, CR25	1.000	EA 4
05	0683-0040 RES, 2200 OHM, CR25	1.000	EA 4
05	0683-0041 RES, 3300 OHM, CR25	2.000	EA 4
06	0683-0042 RES, 6800 OHM, CR25	1.000	EA 4
05	0683-0044 RES, 10K OHM, CR25	1.000	EA 4
05	0683-0046 RES, 33K OHM, CR25	1.000	EA 4
05	0683-0047 RES, 100K OHM, CR25	1.000	EA 4
05	0683-0062 RES, 3K OHM, CR25	3.000	EA 4
05	0683-0071 RES, 2500 OHM, CR25	1.000	EA 4
05	0683-0076 RES, 51 OHM, CR25	2.000	EA 4
05	0683-0077 RES, 6200 OHM, CR25	1.000	EA 4
05	0684-0009 RES, 470 OHM, CR37	1.000	EA 4
05	0684-0074 RES, 4.7 OHM, CR37	4.000	EA 4
05	0684-0075 RES, 3.3 OHM, CR37	2.000	EA 4
05	1111-0278 EJECT, CARD, UNTRACTAL 1000-6-05	2.000	EA 4
05	1210-0045 SOCKET, TRANS, GREEKY 440-14-CF-T	6.000	EA 4
06	1210-0051 SOCKET, 8PIN, PCI #LS0-308-T	9.000	EA 4
06	1210-0052 SOCKET, 14PIN, PCI #LS0-314-T	2.000	EA 4
05	1210-0053 SOCKET, 16PIN, PCI #LS0-316-T	8.000	EA 4
05	1210-0054 SOCKET, 24PIN, PCI #LS0-624-T	2.000	EA 4
05	1210-0055 SOCKET, 120PIN, PCI #LS0-320-T	2.000	EA 4
05	1250-0205 CONN, ARIES 16-0511-10NE, 16STRP	2.000	EA 4
05	1250-0207 CONN, ARIES 0500-0.600, SPAC BAR	2.000	EA 4
05	1853-0101 TRANS, FN363BA FSC PNF-SI	3.000	EA 4
05	1854-0008 TRANS, FN3566 FSC NFN-SI	3.000	EA 4
05	1854-0108 TRANS, 2N3563 NSC NFN-SI	3.000	EA 4
05	1860-0003 TRANS, 3N138 RCA FET	6.000	EA 4
05	1860-0029 TRANS, MJE220 MOT NFN-SI	1.000	EA 4
06	1860-0030 TRANS, MJE220 MOT NFN-SI	1.000	EA 4
06	1910-0004 POT, 100 OHM, BECKMAN 72PMR100	4.000	EA 4
05	2100-0011 POT, 1K, BECKMAN 72PMR1K	1.000	EA 4
05	2100-0057 POT, 10K, BECKMAN 72PMR10K	2.000	EA 4
06	2100-0096 PCB DSG	1.000	EA 4
05	7154-9603		

PARENT ITEM NO.	DESCRIPTION PCB WIRED, REC/PLAY 7800B ONLY	BATCH QTY	1
7154-9893	ENGR DRAW		
LL	COMPONENT	ENGINEERING	ITEM
CD	ITEM NO.	DRAWING NUMBER	QUANTITY UM TYP
05	0101-0007 CAP, .01MFDX100V CAPAR CEM		
06	0201-0021 IC, MC1458CPI, MOT	1.000	EA 4
06	0683-0016 RES, 1K OHM, CR25	1.000	EA 4
06	0683-0024 RES, 10K OHM, CR25	1.000	EA 4
06	1210-0051 SOCKET, 8PIN, PCI #LS0-308-T	1.000	EA 4
06	1230-0001 HEADER, 4CKT, AMP 640456-4	2.000	EA 4
06	1230-0002 HEADER, 7CKT, AMP 640456-7	1.000	EA 4
06	1230-0004 HEADER, 15CKT, AMP 1-640454-5	1.000	EA 4
05	3104-0017 SWITCH, CENTRALAB #PB-15-2	1.000	EA 4
05	3104-0018 SWITCH, CENTRALAB #PB15-3	1.000	EA 4
05	3104-0036 SWITCH, CENTRALAB #PB15	1.000	EA 4
05	7154-9803 PCB DSG	1.000	EA 4

PARENT ITEM NO.
7154-9993DESCRIPTION PCB WIRED ATTN/RANG 7800B7813B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0141-0035	CAP, 1000PF, ELMENCO #DM15-100J		1.000	EA 4
05	0181-0013	CAP, 10MFDX35V, CAPAR #CLE-H		1.000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		4.000	EA 4
05	0201-0139	IC, NE5532, SIG		2.000	EA 4
05	0671-0032	RES, 12.1K OHM, 1/4W, 1%, RN60D		2.000	EA 4
05	0671-0000	RES, 10.2K, CORNING #RN60D1022F		2.000	EA 4
05	0671-0071	RESISTOR, 10.2K OHM, RN60D		2.000	EA 4
05	0671-0092	RESISTOR, 14.3K OHM, RN60D		1.000	EA 4
05	0671-0093	RESISTOR, 19.1K OHM, RN60D		2.000	EA 4
05	0671-0097	RESISTOR, 158K OHM, RN60D		1.000	EA 4
05	0671-0097	RESISTOR, 49.9K OHM, RN60D		1.000	EA 4
05	0671-0101	RESISTOR, 499K OHM, RN60D		1.000	EA 4
06	0683-0010	RES, 100 OHM, CR25		4.000	EA 4
05	0683-0011	RES, 150 OHM, CR25		1.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		1.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		1.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		2.000	EA 4
06	0683-0027	RES, 150K OHM, CR25		1.000	EA 4
06	1210-0001	SWITCH, 1.6PIN, POT 1-640454-5		2.000	EA 4
06	1230-0003	HEADER, 10 CKT, AMP 1-640454-5		2.000	EA 4
06	1230-0003	HEADER, 15CKT, AMP 1-640454-5		1.000	EA 4
05	1250-0164	CONN, MOLEX 22-03 2031, 3 PIN		1.000	EA 4
06	1941-0015	DIODE, 1N4446, FSC		3.000	EA 4
05	1901-0015	DIODE, 1N4732, MFG 4.7V		2.000	EA 4
05	3104-0014	SWITCH, CENTRALAB #PB1		1.000	EA 4
05	3104-0021	SWITCH, CENTRALAB #PB15		1.000	EA 4
05	3104-0027	SWITCH, CENTRALAB #PB15		1.000	EA 4
05	7154-9903	PCB DSG		1.000	EA 4

PARENT ITEM NO.
7155-0093DESCRIPTION PCB WIRED, GATING 7800B ONLY
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0683-0016	RES, 1K OHM, CR25		1.000	EA 4
05	0683-0026	RES, 47K OHM, CR25		2.000	EA 4
05	0683-0045	RES, 22K OHM, CR25		2.000	EA 4
05	0683-0066	RES, 82K OHM, CR25		1.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		1.000	EA 4
06	1230-0003	HEADER, 10 CKT, AMP 1-640454-0		1.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		1.000	EA 4
05	2100-0231	POT, 25K, AB 70M4N04BL253U		1.000	EA 4
05	3104-0014	SWITCH, CENTRALAB #PB1		5.000	EA 4
05	3104-0015	SWITCH, CENTRALAB #PB1		1.000	EA 4
05	3104-0016	SWITCH, CENTRALAB #PB1		1.000	EA 4
05	3104-0018	SWITCH, CENTRALAB #PB15-3		1.000	EA 4
05	7150-0900	BRACKET, POT MTG DSG		1.000	EA 2
05	7155-0003	PCB DSG		1.000	EA 4

PARENT ITEM NO.
7155-1093DESCRIPTION PCB WIRED, MOTHER 7800B ONLY
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	1111-0297	JUMPER, ARIES #7-007-151		2.000	EA 4
06	1111-0300	WTRF, JUMPER, FANCORT, 2"		1.000	EA 4
06	1111-0374	RIVET, ALUM, EMHART #AI44AH		40.000	EA 4
06	1111-0375	JUMPER, 4CKT, ARIES #4-007-151		2.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		7.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		5.000	EA 4
06	1230-0003	HEADER, 10 CKT, AMP 1-640454-0		8.000	EA 4
06	1230-0004	HEADER, 15CKT, AMP 1-640454-5		3.000	EA 4
06	1250-0169	CONN, TRW 50-44SN-1, DUAL 22PIN		20.000	EA 4
06	7151-5100	POLARIZING KEY DSG		10.000	EA 2
06	7155-1003	PCB MOTHER DSG		1.000	EA 4

PARENT ITEM NO.
7155-1393DESCRIPTION PCB WIRED, DIS AT/FIL 7800B ONLY
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0181-0013	CAP, 10MFDX35V, CAPAC #CLE-L			
05	0683-0046	RES, 33K OHM, CR25		1.000	EA 4
05	0683-0071	RES, 7500 OHM, CR25		1.000	EA 4
05	0683-0077	RES, 6200 OHM, CR25		2.000	EA 4
05	0683-0079	RES, 300K OHM, CR25		2.000	EA 4
05	0683-0088	RES, 30K OHM, ITOKA		1.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		1.000	EA 4
06	1230-0003	HEADER, 10 CKT, AMP 1-640454-0		1.000	EA 4
05	3104-0018	SWITCH, CENTRALAB #PB15-3		1.000	EA 4
05	3104-0021	SWITCH, CENTRALAB #PB15		1.000	EA 4
05	7155-1303	PCB DSG		1.000	EA 4

CHILD ITEM NO.
7155-1330DESCRIPTION CABLE ASSY.- R.F. (7800) 7815
ENGR DRAW

BATCH QTY 1

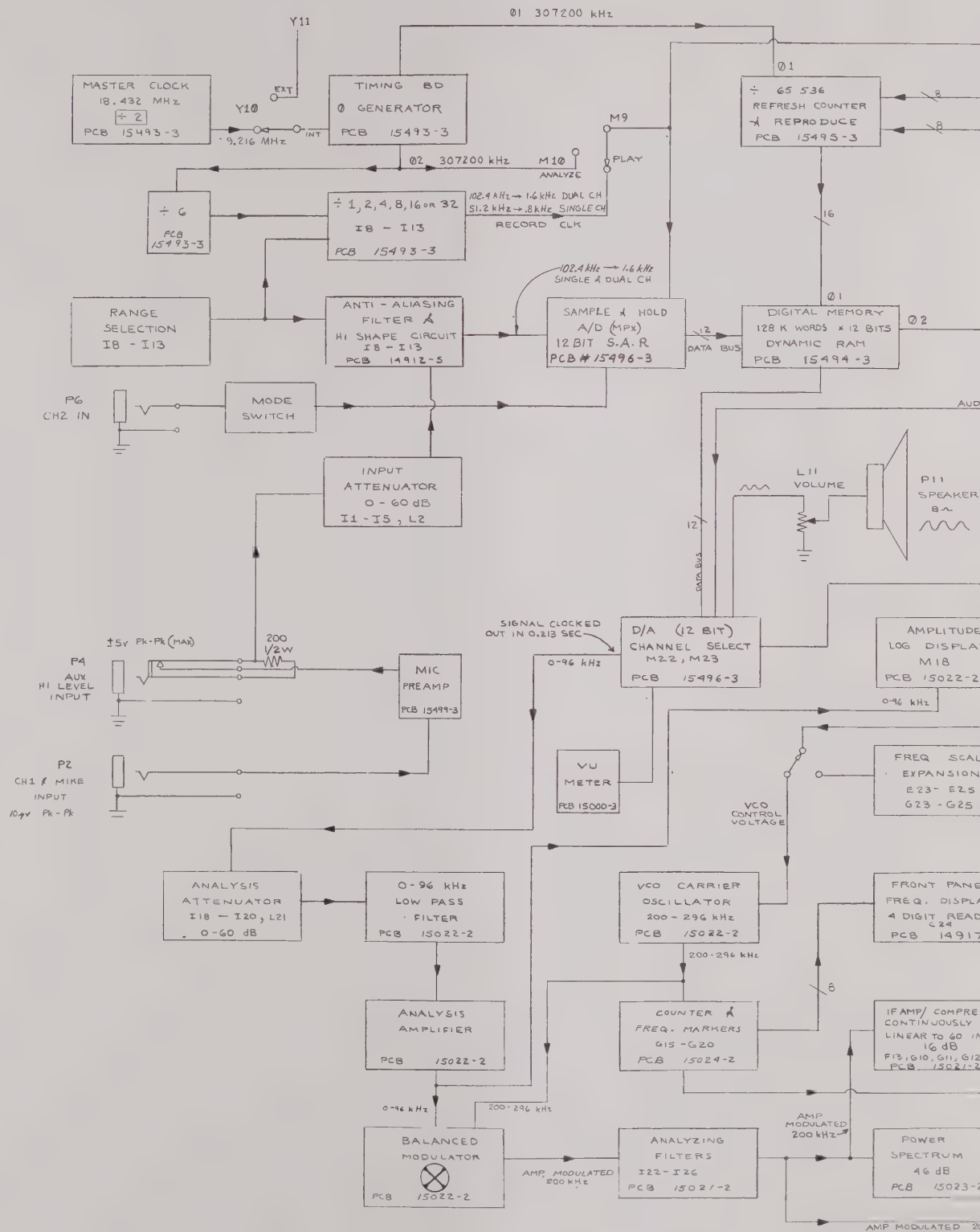
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	1050-0117	CABLE, TW BNC-991, GROUND 9-PIN		1.000	EA 4
05	1050-0118	CABLE, TW BNC-991, GROUND 9-PIN		2.000	EA 4
05	8114-0007	CABLE, MICRO BNC/BNC .140		1.000	EA 4
05	8114-0011	CABLE, MICRO YEL/BW/BRED .140		1.500	EA 4
05	8114-0011	CABLE, MICRO GRAY/BROWN .140		1.500	EA 4

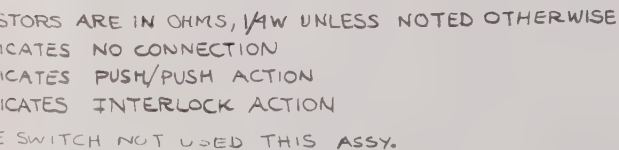
CHILD ITEM NO.
7155-1300DESCRIPTION RACK SLIDE KIT
ENGR DRAW

7800B

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0683-0004	HEADER, TENNANT, 50%		1.000	EA 4
05	7152-0002	SLIDE SET, RACK, 7800	KAY01	2.000	EA 4
05	7152-0003	BRACKET, 7800		1.000	EA 2
05	7152-0004	BRACKET, 7800		1.000	EA 2
05	7152-0005	BRACKET, 7800		1.000	EA 2
05	7152-0006	BRACKET, 7800		1.000	EA 2
05	7152-0007	BRACKET, 7800		1.000	EA 2
05	7152-0008	BRACKET, 7800		1.000	EA 2
05	7152-0009	BRACKET, 7800		1.000	EA 2
05	7152-0010	BRACKET, 7800		1.000	EA 2
05	7152-0011	BRACKET, 7800		1.000	EA 2
05	7152-0012	BRACKET, 7800		1.000	EA 2
05	7152-0013	BRACKET, 7800		1.000	EA 2
05	7152-0014	BRACKET, 7800		1.000	EA 2
05	7152-0015	BRACKET, 7800		1.000	EA 2
05	7152-0016	BRACKET, 7800		1.000	EA 2
05	7152-0017	BRACKET, 7800		1.000	EA 2
05	7152-0018	BRACKET, 7800		1.000	EA 2
05	7152-0019	BRACKET, 7800		1.000	EA 2
05	7152-0020	BRACKET, 7800		1.000	EA 2
05	7152-0021	BRACKET, 7800		1.000	EA 2
05	7152-0022	BRACKET, 7800		1.000	EA 2
05	7152-0023	BRACKET, 7800		1.000	EA 2
05	7152-0024	BRACKET, 7800		1.000	EA 2
05	7152-0025	BRACKET, 7800		1.000	EA 2
05	7152-0026	BRACKET, 7800		1.000	EA 2
05	7152-0027	BRACKET, 7800		1.000	EA 2
05	7152-0028	BRACKET, 7800		1.000	EA 2
05	7152-0029	BRACKET, 7800		1.000	EA 2
05	7152-0030	BRACKET, 7800		1.000	EA 2
05	7152-0031	BRACKET, 7800		1.000	EA 2
05	7152-0032	BRACKET, 7800		1.000	EA 2
05	7152-0033	BRACKET, 7800		1.000	EA 2
05	7152-0034	BRACKET, 7800		1.000	EA 2
05	7152-0035	BRACKET, 7800		1.000	EA 2
05	7152-0036	BRACKET, 7800		1.000	EA 2
05	7152-0037	BRACKET, 7800		1.000	EA 2
05	7152-0038	BRACKET, 7800		1.000	EA 2
05	7152-0039	BRACKET, 7800		1.000	EA 2
05	7152-0040	BRACKET, 7800		1.000	EA 2
05	7152-0041	BRACKET, 7800		1.000	EA 2
05	7152-0042	BRACKET, 7800		1.000	EA 2
05	7152-0043	BRACKET, 7800		1.000	EA 2
05	7152-0044	BRACKET, 7800		1.000	EA 2
05	7152-0045	BRACKET, 7800		1.000	EA 2
05	7152-0046	BRACKET, 7800		1.000	EA 2
05	7152-0047	BRACKET, 7800		1.000	EA 2
05	7152-0048	BRACKET, 7800		1.000	EA 2
05	7152-0049	BRACKET, 7800		1.000	EA 2
05	7152-0050	BRACKET, 7800		1.000	EA 2
05	7152-0051	BRACKET, 7800		1.000	EA 2
05	7152-0052	BRACKET, 7800		1.000	EA 2
05	7152-0053	BRACKET, 7800		1.000	EA 2
05	7152-0054	BRACKET, 7800		1.000	EA 2
05	7152-0055	BRACKET, 7800		1.000	EA 2
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05	7152-0057	BRACKET, 7800		1.000	EA 2
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05	7152-0059	BRACKET, 7800		1.000	EA 2
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05	7152-0061	BRACKET, 7800		1.000	EA 2
05	7152-0062	BRACKET, 7800		1.000	EA 2
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05	7152-0065	BRACKET, 7800		1.000	EA 2
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05	7152-0067	BRACKET, 7800		1.000	EA 2
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05	7152-0075	BRACKET, 7800		1.000	EA 2
05	7152-0076	BRACKET, 7800		1.000	EA 2
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05	7152-0079	BRACKET, 7800		1.000	EA 2
05	7152-0080	BRACKET, 7800		1.000	EA 2
05	7152-0081	BRACKET, 7800		1.000	EA 2
05	7152-0082	BRACKET, 7800		1.000	EA 2
05	7152-0083	BRACKET, 7800		1.000	EA 2
05	7152-0084	BRACKET, 7800		1.000	EA 2
05	7152-0085	BRACKET, 7800		1.000	EA 2
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05	7152-0090	BRACKET, 7800		1.000	EA 2
05	7152-0091	BRACKET, 7800		1.000	EA 2
05	7152-0092	BRACKET, 7800		1.000	EA 2
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05	7152-0094	BRACKET, 7800		1.000	EA 2
05	7152-0095	BRACKET, 7800		1.000	EA 2
05	7152-0096	BRACKET, 7800		1.000	EA 2
05	7152-0097	BRACKET, 7800		1.000	EA 2
05	7152-0098	BRACKET, 7800		1.000	EA 2
05	7152-0099	BRACKET, 7800		1.000	EA 2
05	7152-0100	BRACKET, 7800		1.000	EA 2
05	7152-0101	BRACKET, 7800		1.000	EA 2
05	7152-0102	BRACKET, 7800		1.000	EA 2
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05	7152-0105	BRACKET, 7800		1.000	EA 2
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05	7152-0112	BRACKET, 7800		1.000	EA 2
05	7152-0113	BRACKET, 7800		1.000	EA 2
05	7152-0114	BRACKET, 7800		1.000	EA 2
05	7152-0115	BRACKET, 7800		1.000	EA 2
05	7152-0116	BRACKET, 7800		1.000	EA 2
05	7152-0117	BRACKET, 7800		1.000	EA 2
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05	7152-0121	BRACKET, 7800		1.000	EA 2
05	7152-0122	BRACKET, 7800		1.000	EA 2
05	7152-0123	BRACKET, 7800		1.000	EA 2
05	7152-0124	BRACKET, 7800		1.000	EA 2
05	7152-0125	BRACKET, 7800		1.000	EA 2
05	7152-0126	BRACKET, 7800		1.000	EA 2
05	7152-0127	BRACKET, 7800		1.000	EA 2
05	7152-0128	BRACKET, 7800		1.000	EA 2
05	7152-0129	BRACKET, 7800		1.000	EA 2
05	7152-0130	BRACKET, 7800		1.000	EA 2
05	7152-0131	BRACKET, 7800		1.000	EA 2
05	7152-0132	BRACKET, 7800		1.000	EA 2
05	7152-0133	BRACKET, 7800		1.000	EA 2
05	7152-0134	BRACKET, 7800		1.000	EA 2
05	7152-0135	BRACKET, 7800		1.000	EA 2
05	7152-0136	BRACKET, 7800		1.000	EA 2
05	7152-0137	BRACKET, 7800		1.000	EA 2
05	7152-0138	BRACKET, 7800		1.000	EA 2
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05	7152-0144	BRACKET, 7800		1.000	EA 2
05	7152-0145	BRACKET, 7800		1.000	EA 2
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05	7152-0149	BRACKET, 7800	</		



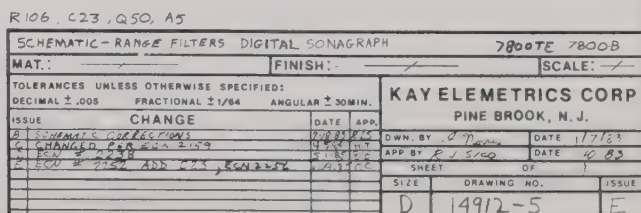


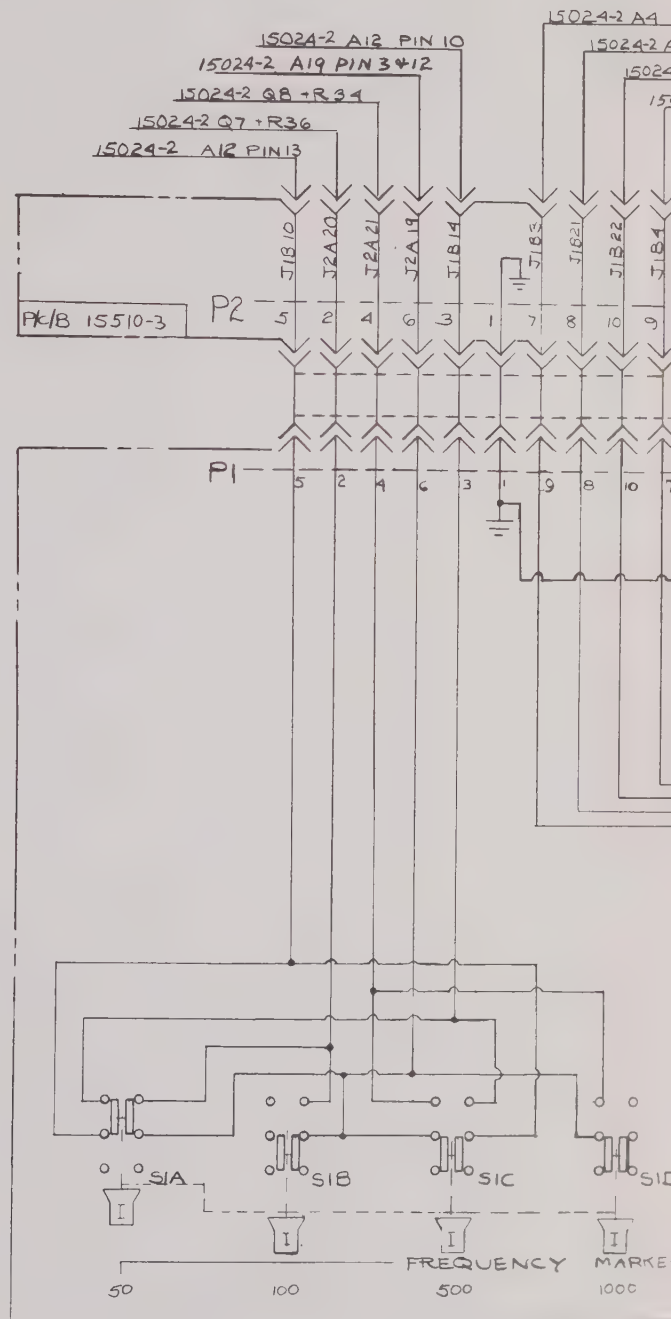
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PIN NUMBERS

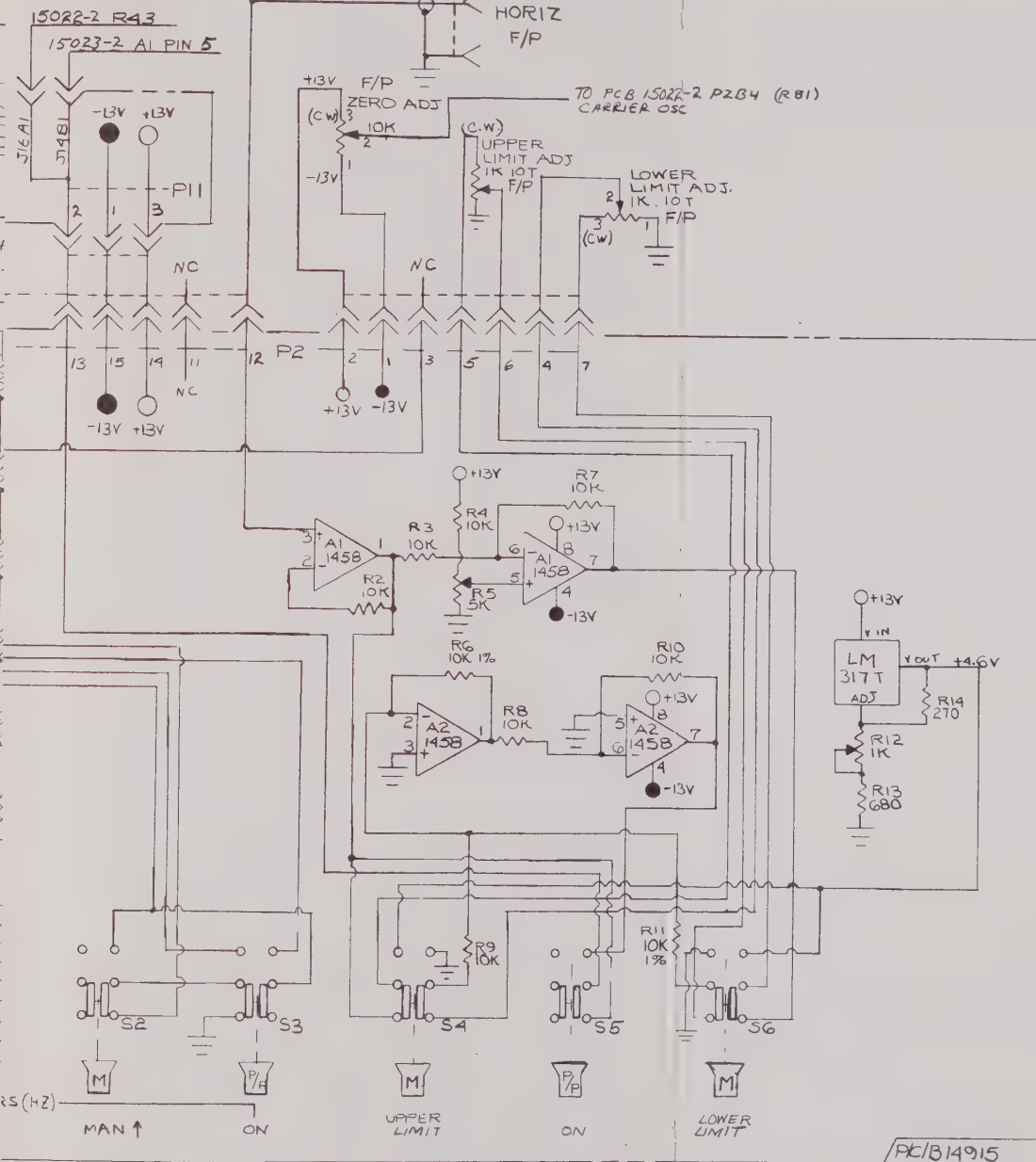
DISPLAY FUNCTION BD		DIGITAL SONA GRAPH		7800E	
MAT.		FINISH:		SCALE:	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL ± .005		FRACTIONAL ± 1/64		ANGULAR ± 30 MIN.	
CHANGE			DATE APP		
P. PCA 22-41 W. PCB 19-4 22-4 MVED 82-41 2-83 C. ECN 22-41 ADD GROUND P3-14 (TEMPEST)			U-885 RHL		
			OWN BY JCH DATE 7-27-83		
			APP BY R.J. SICO DATE 4-28-83		
DWG. NO. C14,910-4C					





I INDICATES INTERLOCK
 M INDICATES MOMENTARY
 P/P INDICATES PUSH-PUSH

IN 5
19 PIN 6
2R43
24-2 A4 PIN 13



REFERENCE
ATOR NO.

5023-2
5024-2
510-3
1910-4
5022-2

SECT./SINGLE LINE/A" TRACE
SONA-COUNTER
MOTHER Bd.
DISPLAY FUNCTIONS
CARRIER OSC + AMP DISPLAY

NOTE: 1) PCB 14915 - DECODE APPLICATION REF SCHEMATIC #C16094
2) ALL RESISTORS ARE IN OHMS, 1/4W UNLESS NOTED OTHERWISE

CALIBRATION/SCALE MAG(F/P) DIGITAL SONA-GRAPH 1800B			
MAT. _____		FINISH: _____	
TOLERANCES UNLESS OTHERWISE SPECIFIED:		SCALE: _____	
DECIMAL $\pm .005$	FRACTIONAL $\pm 1/64$	ANGULAR ± 30 MIN.	
CHANGE		DATE APP	
B. WIRING TO S2. CEN # 2147		11/1/83 SV	
C. ECU 2227 ADD S2S R2-10 P1-		2/18/83 RH2	
D. PCN 2252, 2253 CEN # 2147		2/18/83 RH2	
DW. NO. C14915-3D		DATE 10-5-83	

PCB 14916-3

— ADDRESS A —

DS1-DS6
MAN4610A

RNI-RNG
(7 RESISTORS)
150Ω

P2
J2

LOAD INPUTS
SET TO BINARY
2-0010

PCB 14938-3

P2A

A15

UP DOWN

A10

A14

A13

A12

A11

A10

A9

A8

A7

A6

A5

A4

A3

A2

A1

A0

A-1

A-2

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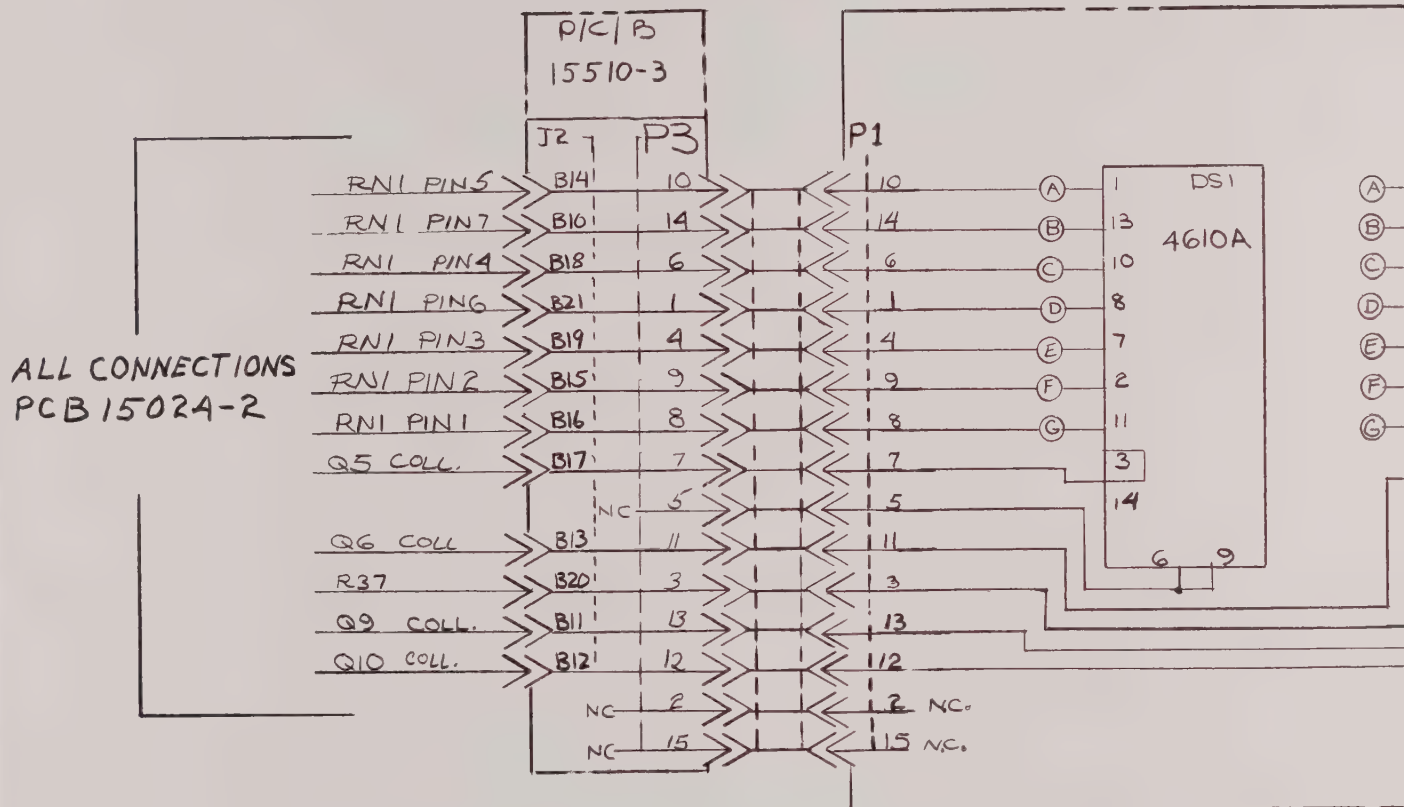
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A-263

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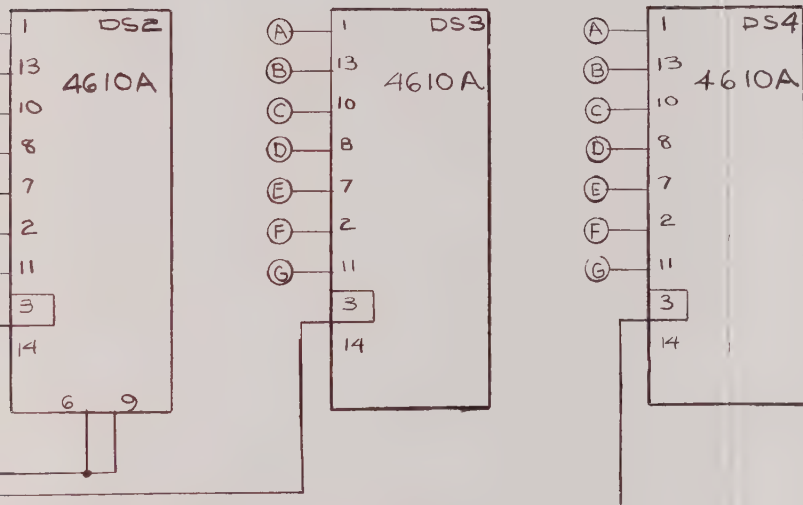
A-265



NOTE: NC - NO CONNECTION
ALL DISPLAYS - 7 SEGMENT, LED, MAN 4610 A

P/C/B REFERENCE DESIGNATOR NO.
15510-3
15024-2

MOTHER BD.
SONA COUNTER



P/C/B 14917

SCHEMATIC - 4 DIGIT DISPLAY DIGITAL SONA-GRAPH 7800 B

MAT. FINISH: SCALE: -/-

TOLERANCES UNLESS OTHERWISE SPECIFIED:
 DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 30 MIN.

KAY ELEMETRICS CORP
 PINE BROOK, N. J.

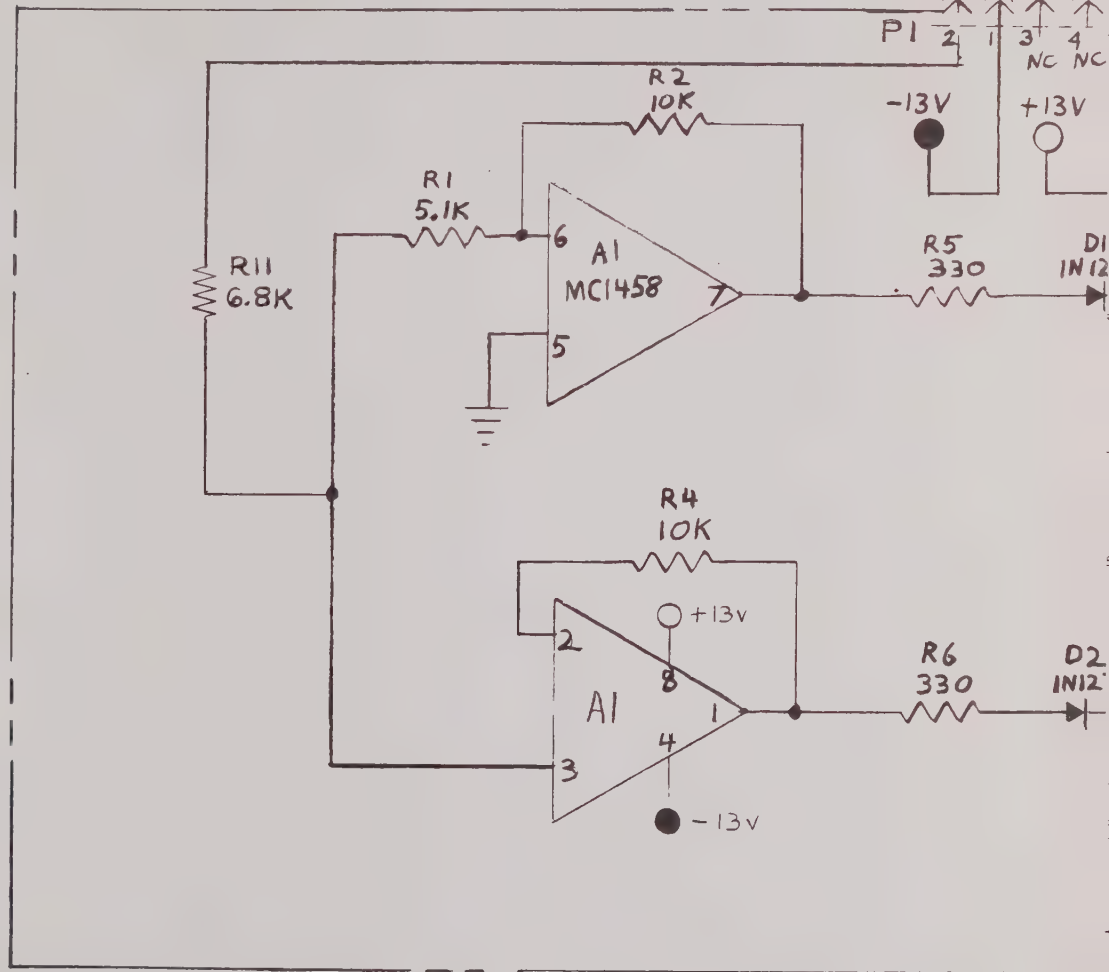
CHANGE	DATE	APP.

DWN. BY E. Norris DATE 11/27/83
 APP. BY R. Feltz DATE 10-6-83

DWG. NO. B14917-3A

INTERCONNECTIONS
SEE REF. TABLE

+5V ←
GND ←
+13V ←
-13V ←
INPUT ←



INTERCONNECTION		REFERENCE
UNIT MODEL	SCHEMATIC NO.	PCB DESIGNATOR
7800	D15245	15015
7800ERA	B15000-3C	15015-5
7813	D15483	~
7800B	D15515	15510-3
7813B	D15639	~

PCB #
15510-3

J5

F/P PCB 14938-3 A15 PIN 11 PIA14
F/P PCB 14938-3 A15 PIN 14 PIA15

F/P PCB 14938-3 A5 PIN 11 PIA12
NORM HIGH PCB 14916-3 FAST DOWN/B PIN 3 PIA17 DOWN/B
" PCB 14916-3 SLOW DOWN/B PIN 3 PIA19 UP/B
F/P PCB 14916-3 SLOW UP/B PIN 3 FAST UP/B

PCB 14916-3 FAST UP/B PIN 1 PIA16 FAST/B

PCB 14916-3 SLOW UP/B PIN 1 PIA12 SLOW/B

PIA11 N.C.
PIA18 N.C.
PIA20 N.C.
PIA21 N.C.

NORM LOW PCB 14916-3 SLOW UP/B PIN 1 PIA12 SLOW/B

PCB 14916-3 FAST UP/B PIN 1 PIA12 FAST/B

NORM HIGH TO PCB 14916-3 SLOW DOWN/B PIN 3 PIA2 DOWN/B
F/P FAST DOWN/B PIN 3

F/P TO PCB 14938-3 A7 PIN 4 PIA2
F/P TO PCB 14938-3 A7 PIN 5 PIA4

NORM HIGH PCB 14916-3 SLOW UP/B PIN 3 PIA3 UP/B
F/P FAST UP/B PIN 3

PCB 14916-3 S3C-3 PIA5

PIA5
PIA9
PIA13
PIA17
PIA1
PIA11

TO PCB 14916-3 CLEAR PIN 1 PIA6 CLEAR

TO PCB 14938-3 A5 PIN 14 PIA14

J5

TO PCB 15495-3 A4 PIN 15 PIA10
TO PCB 15495-3 A4 PIN 1 PIA11
TO PCB 15495-3 A4 PIN 10 PIA10
TO PCB 15495-3 A4 PIN 9 PIA9

TO RECORD COUNTER
NUMBER LOADED
INTO MS RECORD
COUNTER

PCB #
15510-3

PCB 15495-3 A6 PIN 15 PIA18 LSA

PCB 15495-3 A2 PIN 1 PIA17

PCB 15495-3 A2 PIN 10 PIA17

PCB 15495-3 A2 PIN 9 PIA18

PCB 14916-3 VERNIER PIN 3 PIA6 VERNIER

TO PCB 15495-3 A16 PIN 16 PIA22 (B1) LSA

TO PCB 15495-3 A16 PIN 15 PIA21 (B2)

TO PCB 15495-3 A16 PIN 10 PIA20 (B3)

TO PCB 15495-3 A16 PIN 9 PIA19 (B4)

TO PCB 15495-3 A16 PIN 14 PIA18 (B5)

TO PCB 15495-3 A16 PIN 13 PIA17 (B6)

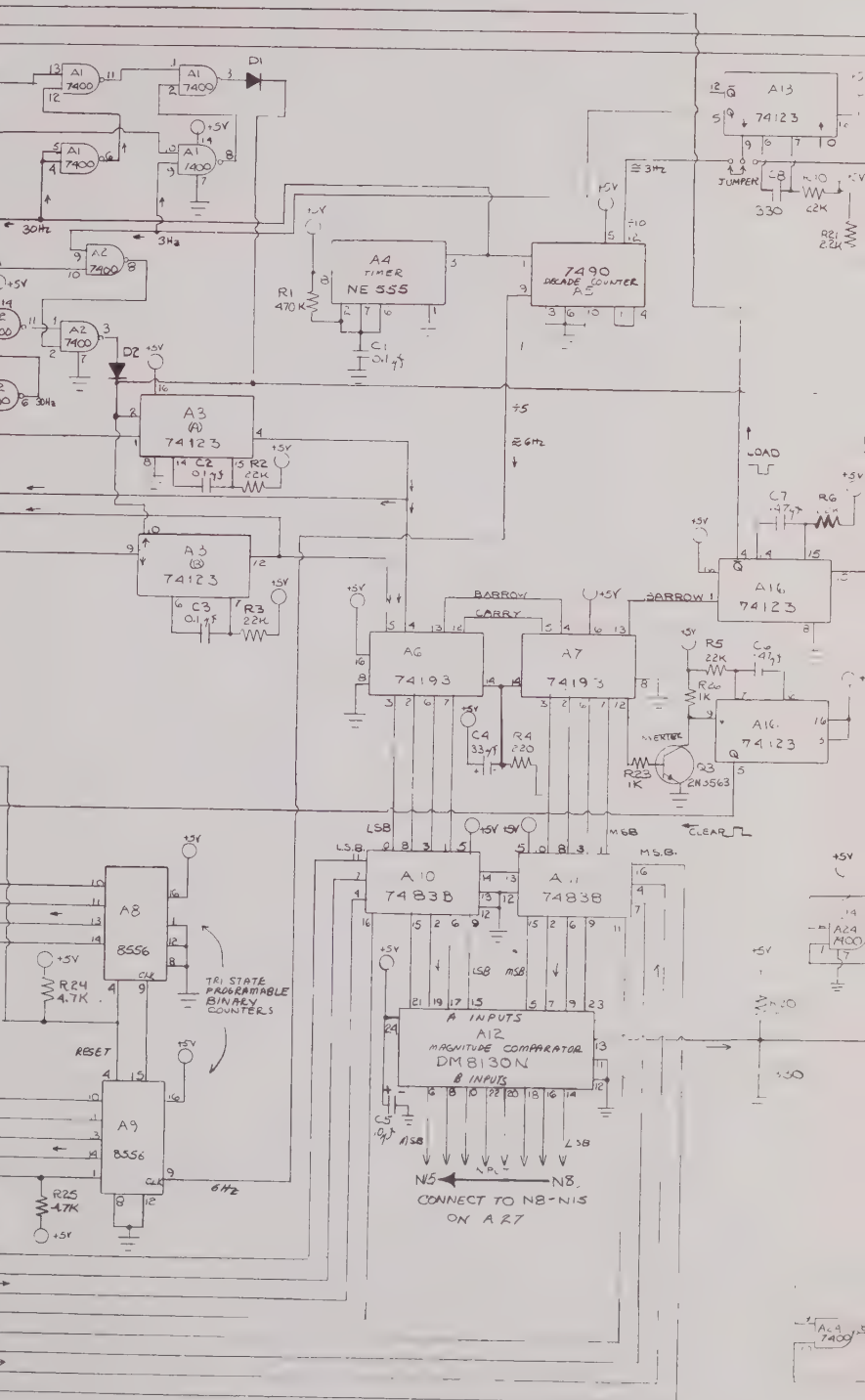
TO PCB 15495-3 A16 PIN 12 PIA16 (B7)

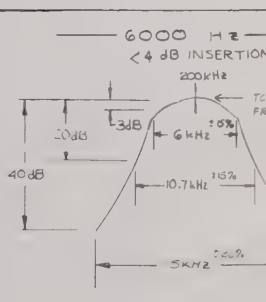
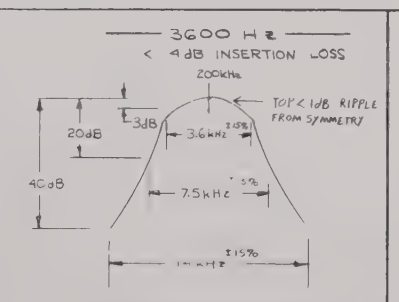
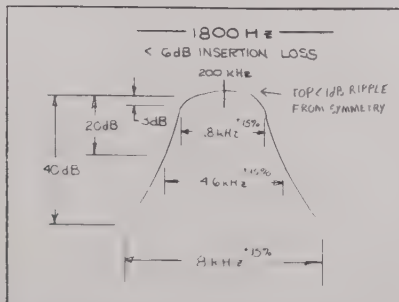
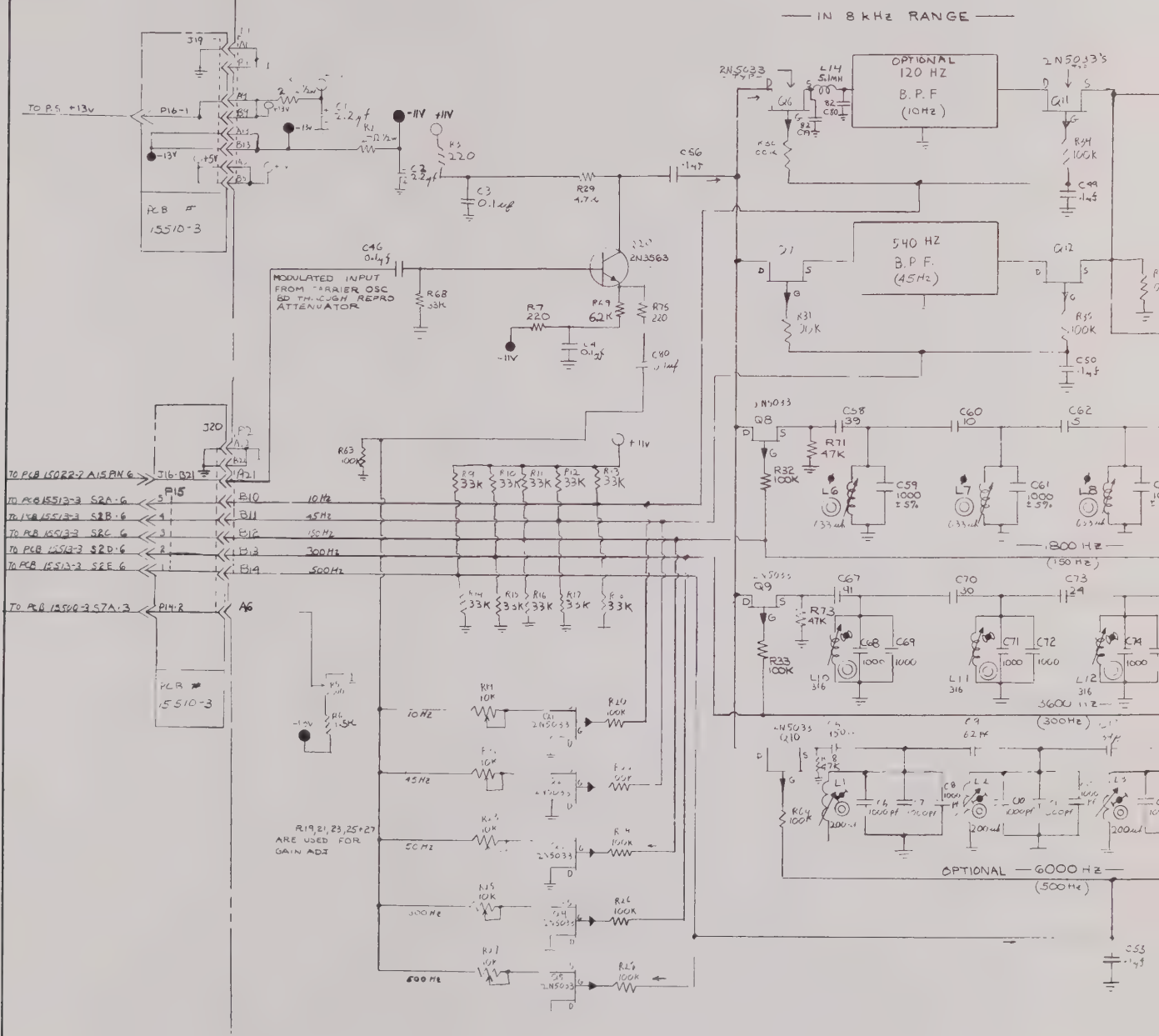
TO PCB 15495-3 A16 PIN 11 PIA15 (B8) MSA

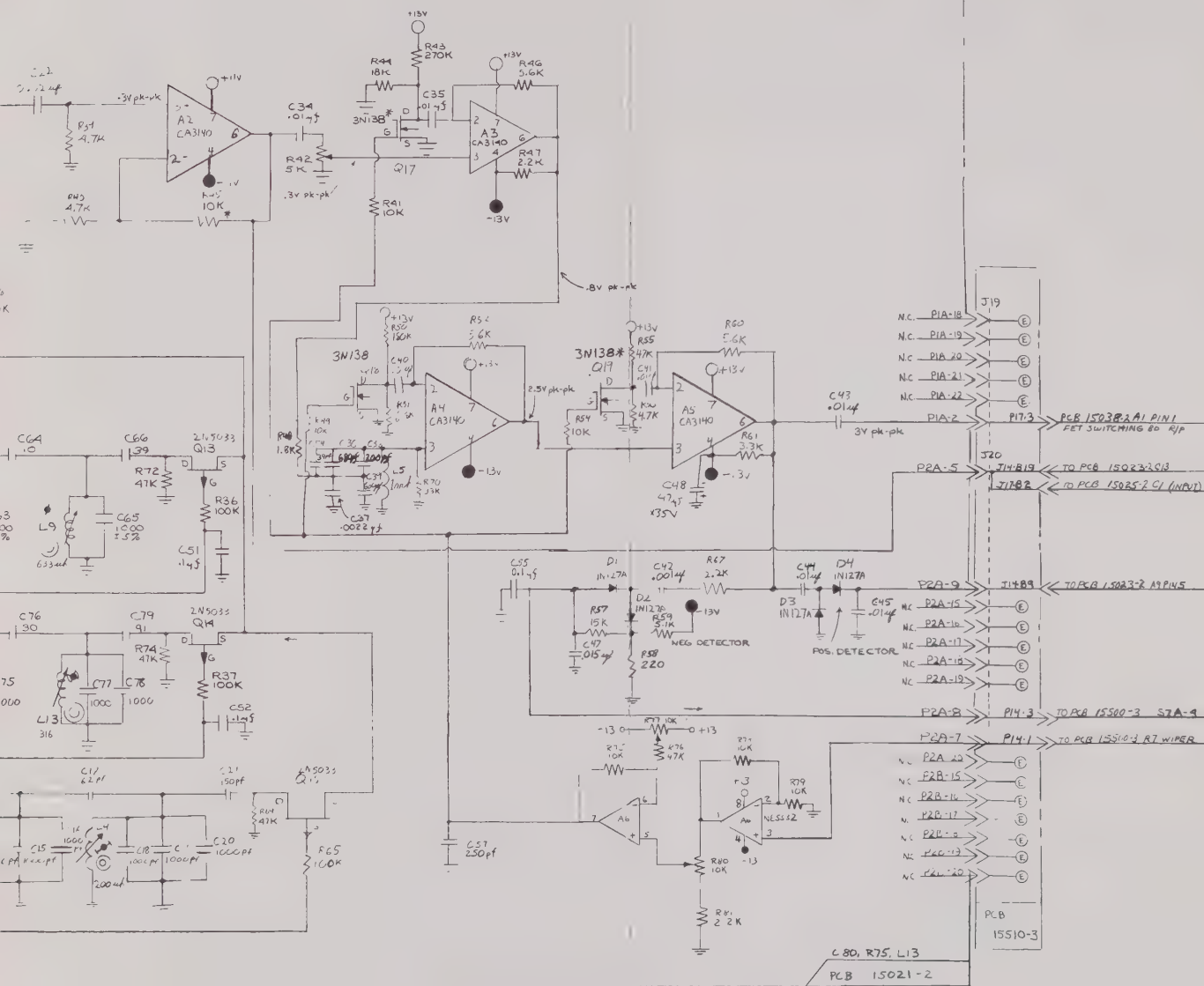
J5

PCB #
15510-3

FROM LATCH
A18, A19 ON
COUNTER 80







P/C/B	REFERENCE
DESIGNATOR	DESCRIPTION
15022-2	CARRIER OSCILLATOR
15023-2	SECT/SINGLE LINE/ A/TRACE
15000-3	GATING FUNCTIONS
15510-3	MOTHER PCB
15513-3	DISPLAY ATT/ FILTERS
15038-2	FET SWITCHING

⑤ INDICATES BOARD EGRESS

ALL RESISTORS ARE IN OHMS, 1/4W UNLESS NOTED OTHERWISE

ALL CAPACITORS ARE IN μF UNLESS NOTED OTHERWISE

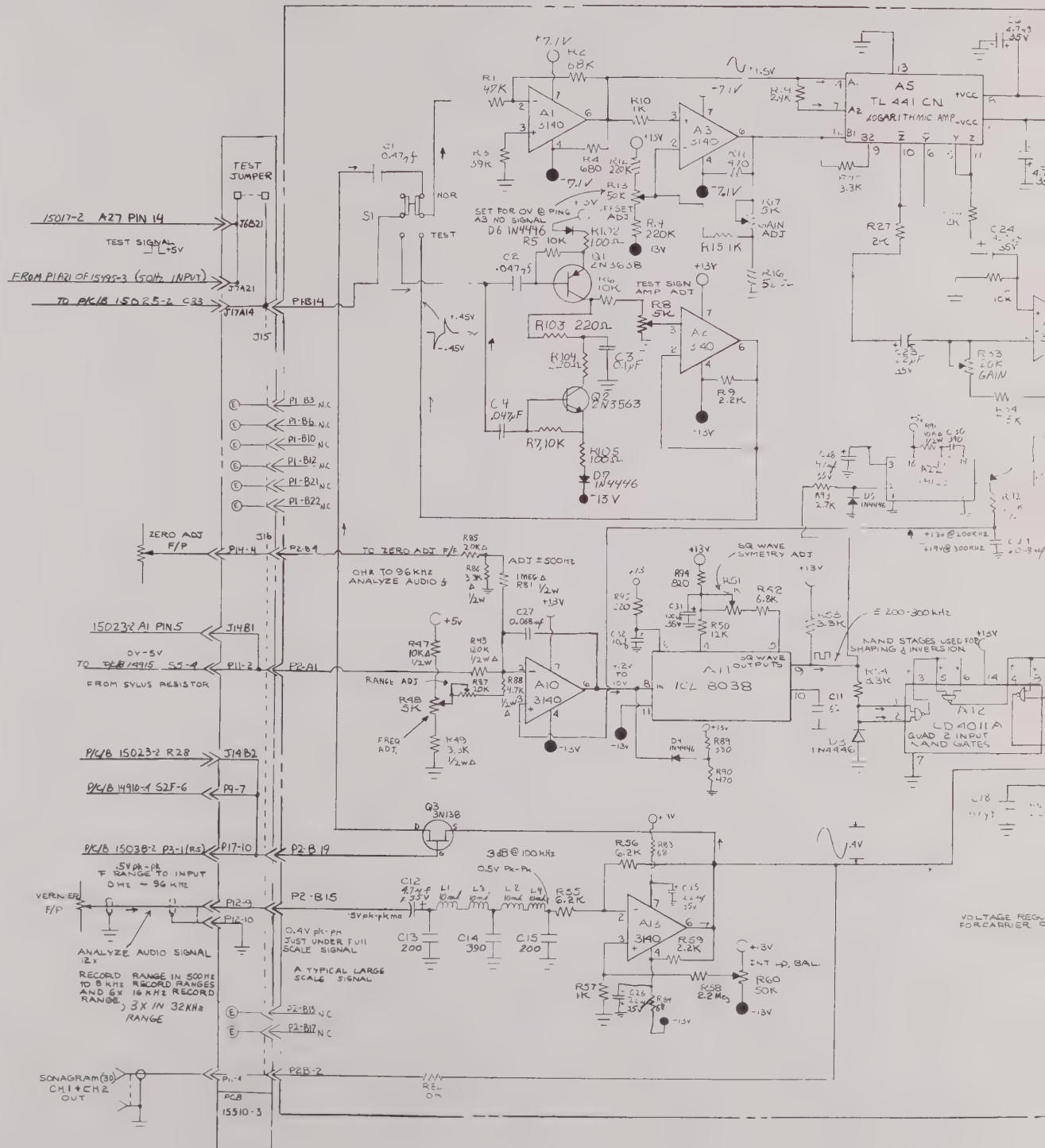
INDICATES TDK H6H3P 1408A 160N-52H PAIRED POT CORES
WOUND OF 20/44 LITZ WIRE (59T, 70°)

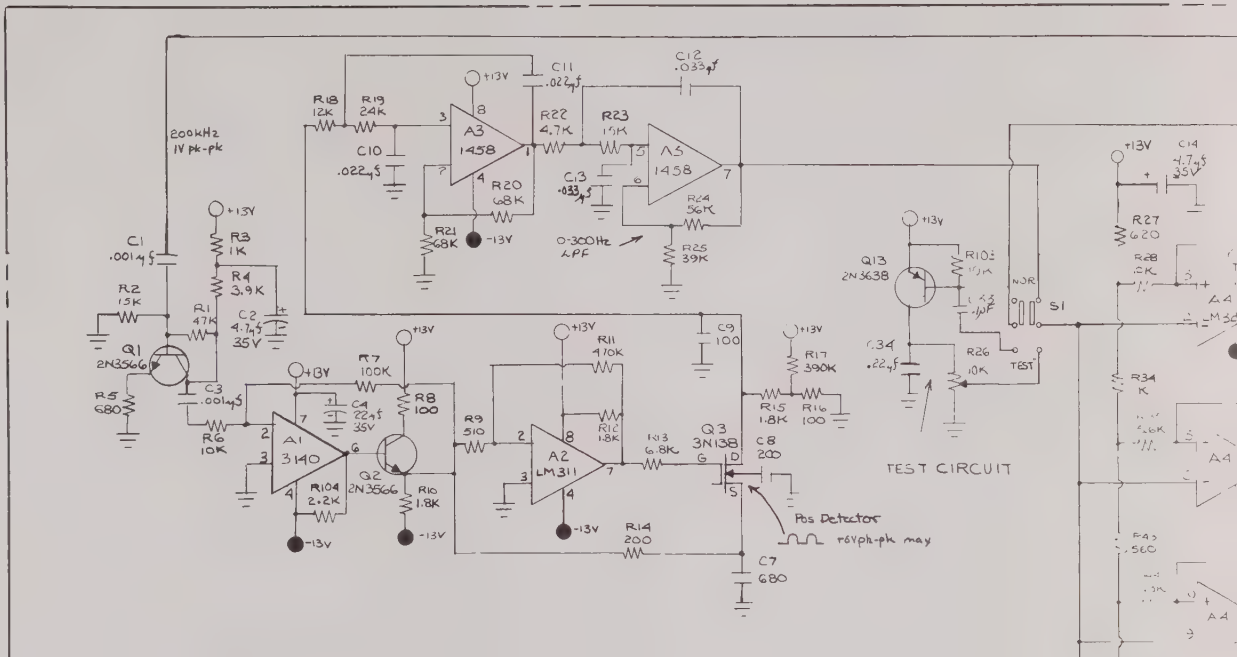
INDICATES TDK H6H3P 1408A 160N-52 H PAIRED POT CORES
WOUND OF 20/44 LTZ WIRE (42T, 46")

INDICATES TDK H6H3P 1408A 160N-52H PAIRED POT CORES
WOUND OF 20/44 LITZ WIRE (34 T, 40")

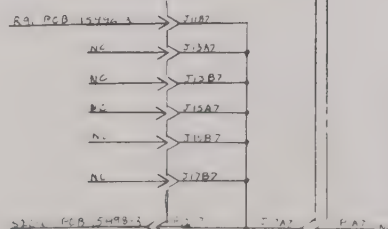
* INDICATES FACTORY SELECT (9/17/19 - P/N 1860-0031)

[illegible]

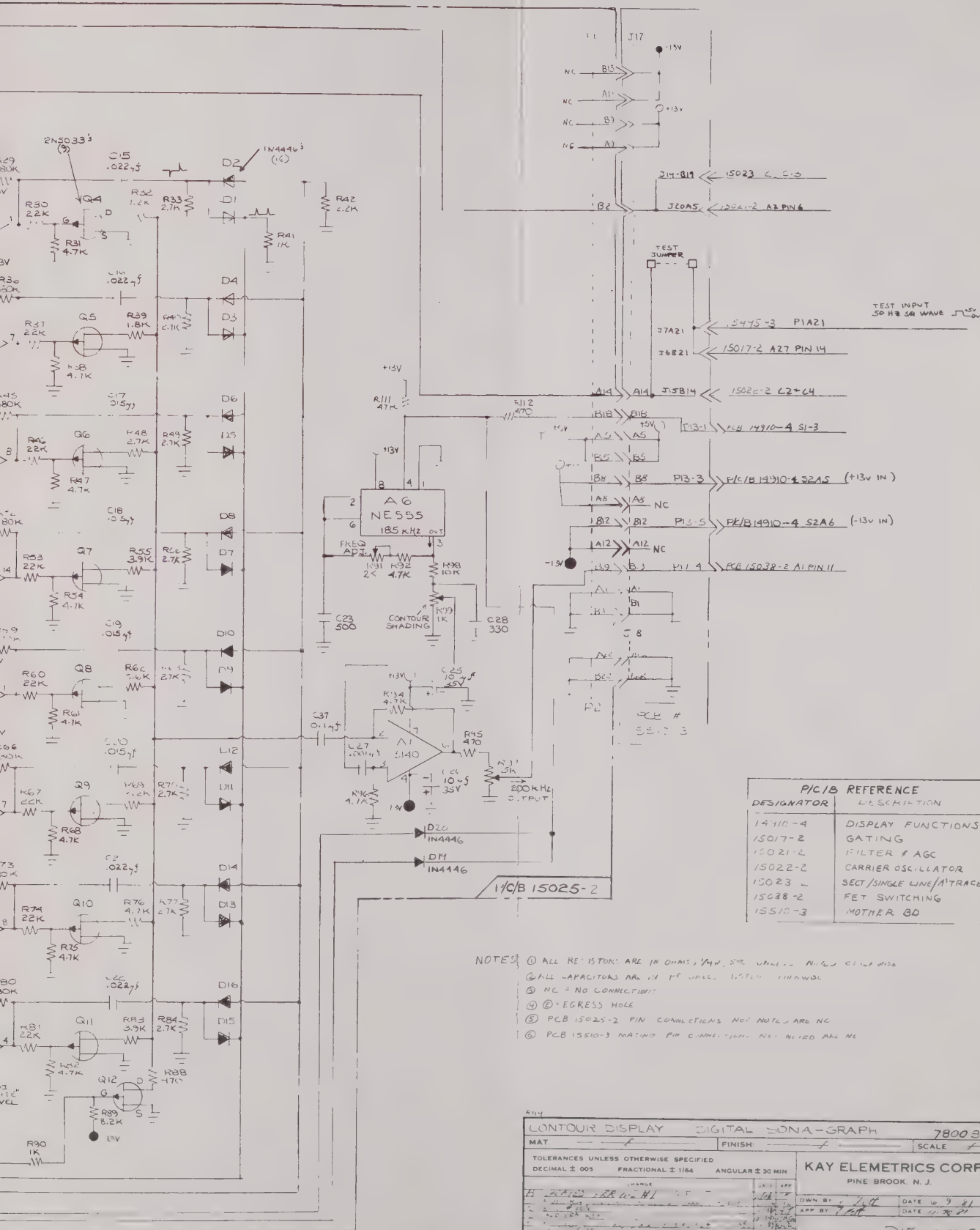




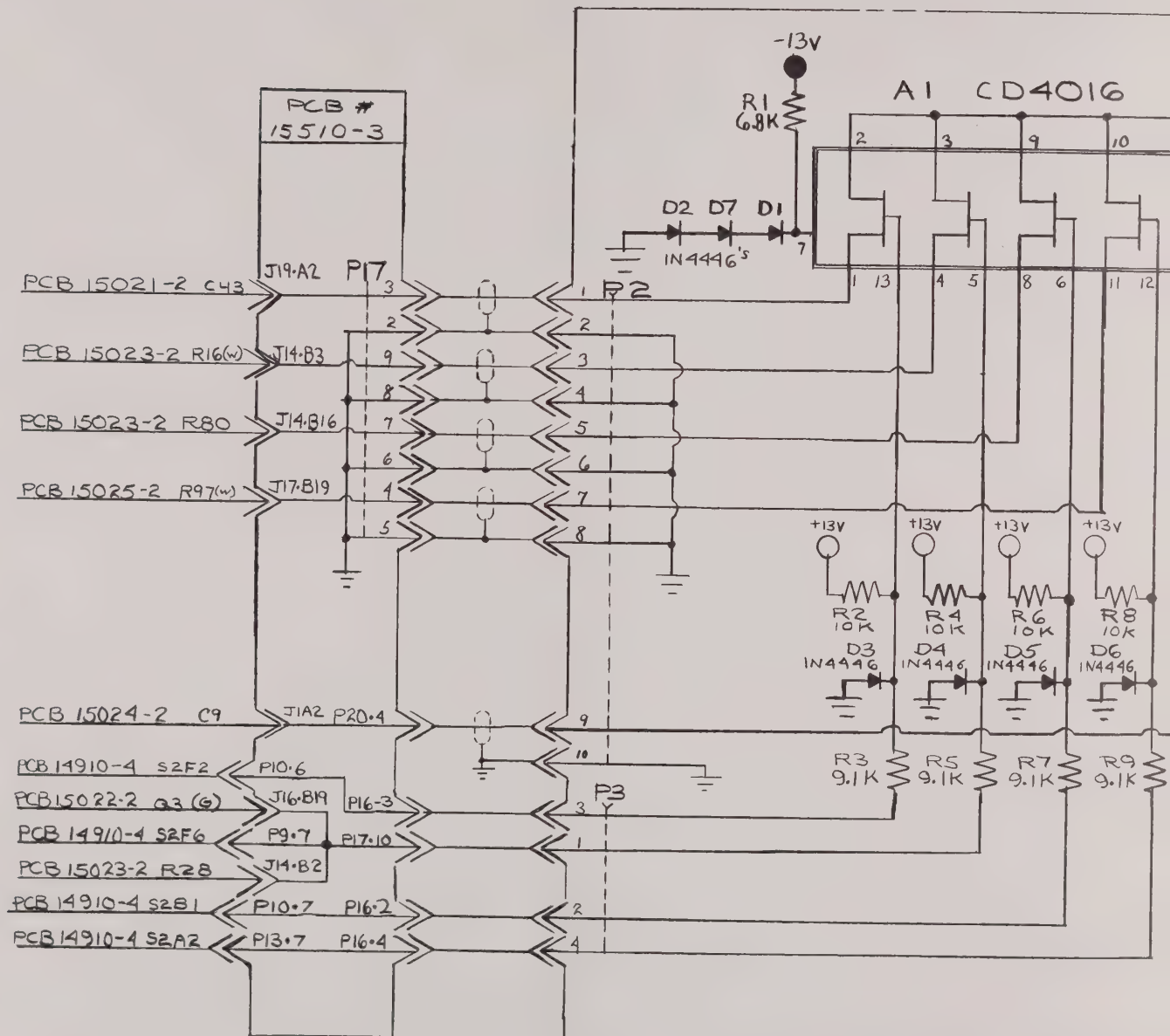
ATTENUATION	VOLTAGE OUT
0dB	+1.0V
5dB	+5.6V
10dB	+3.2V
15dB	+1.8V
20dB	+1.1V
25dB	+5.6V
30dB	+3.2V
35dB	+1.8V
40dB	+1.1V



PCB #
55-0-3

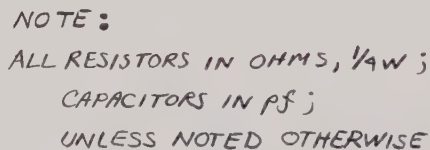


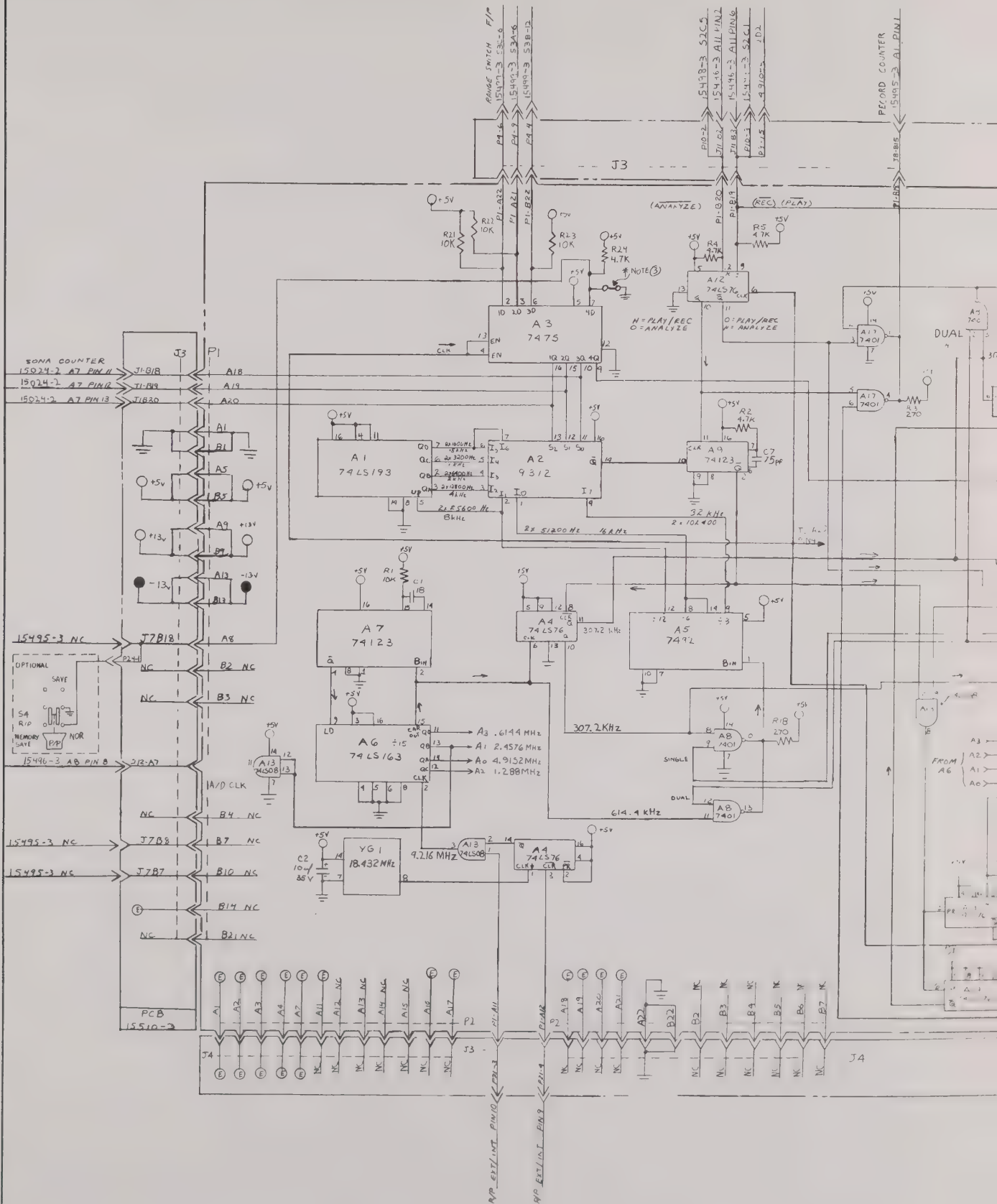
CONTOUR DISPLAY		DIGITAL SONA-GRAPH		78003
MAT.	FINISH	SCALE		SCALE
TOLERANCES UNLESS OTHERWISE SPECIFIED		ANGULAR ± 30 MIN		
DECIMAL $\pm .005$	FRACTIONAL $\pm 1/64$			
KAY ELECTRONICS CORP.		PINE BROOK, N. J.		
DWG. NO. 31125-2				

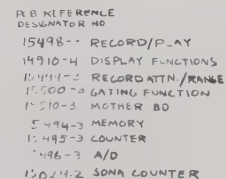


PCB REFERENCE

DESIGNATOR	DESCRIPTION
15021-2	FILTER & AGC
15022-2	CARRIER OSCILLATOR
15023-2	SECT/SINGLE UNE/A' TRACE
15024-2	SONA COUNTER
15025-2	CONTOUR
15510-3	MOTHER PCB
14910-4	DISPLAY FUNCTIONS

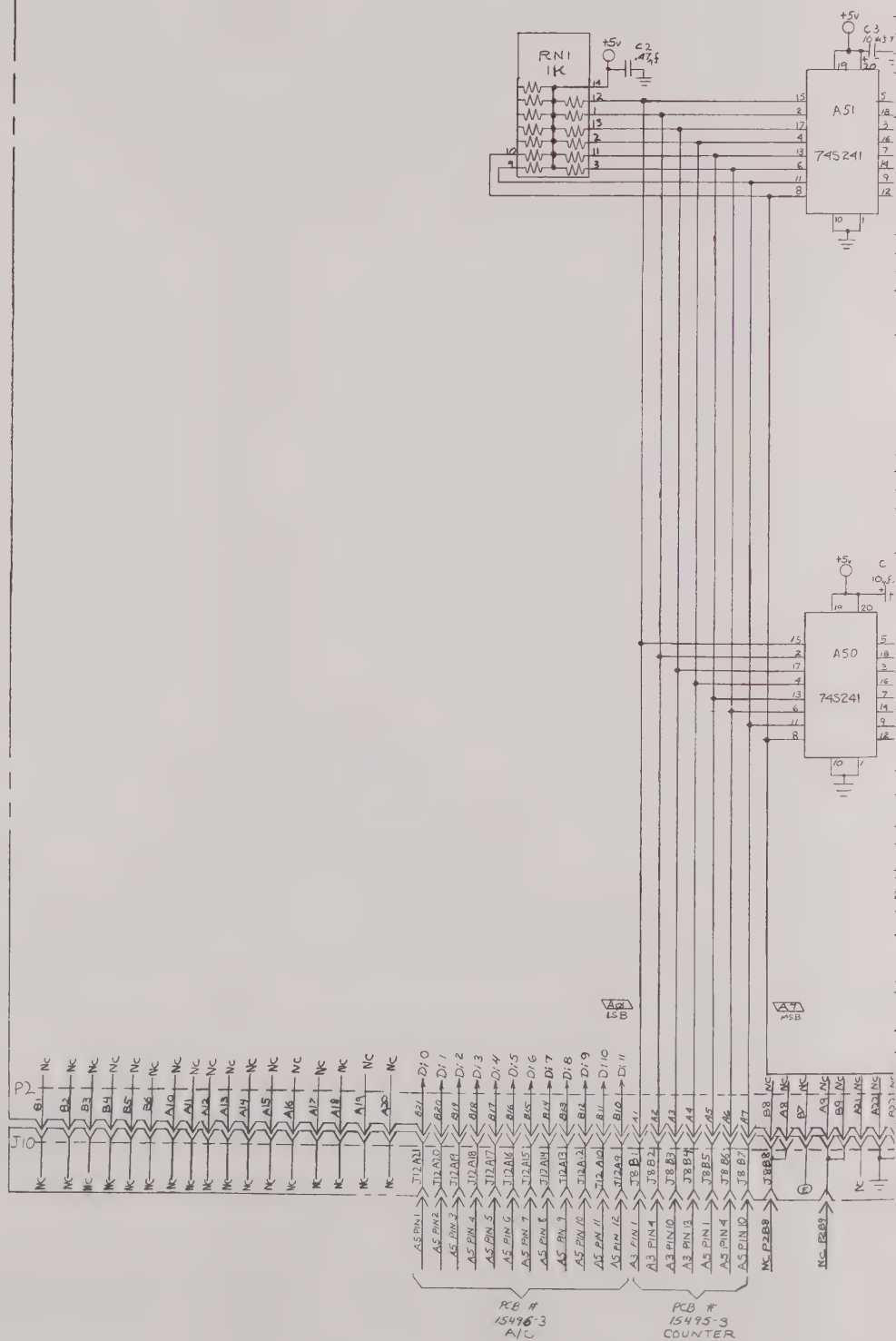
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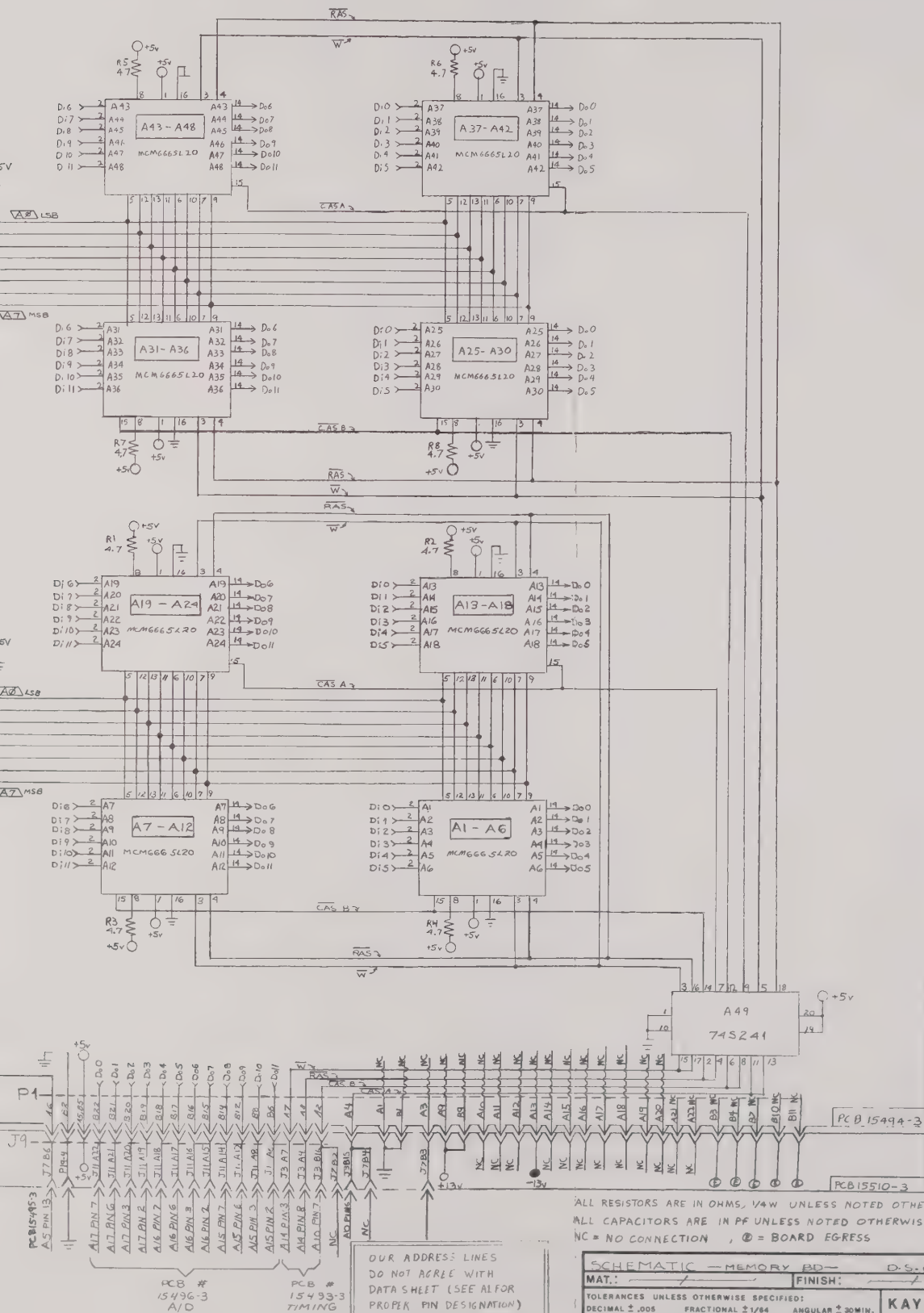




MAT _____ FINISH _____ SCALE: _____
 TOLERANCES UNLESS OTHERWISE SPECIFIED
 DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 30 MIN
 CHANGE _____ DATE _____
 LATE APP _____
 OWN BY *W. H. Brown* DATE *1/1/58*
 APP BY *A. J. COO* DATE *2-4-58*
 DWG. NO. *D15493-34*

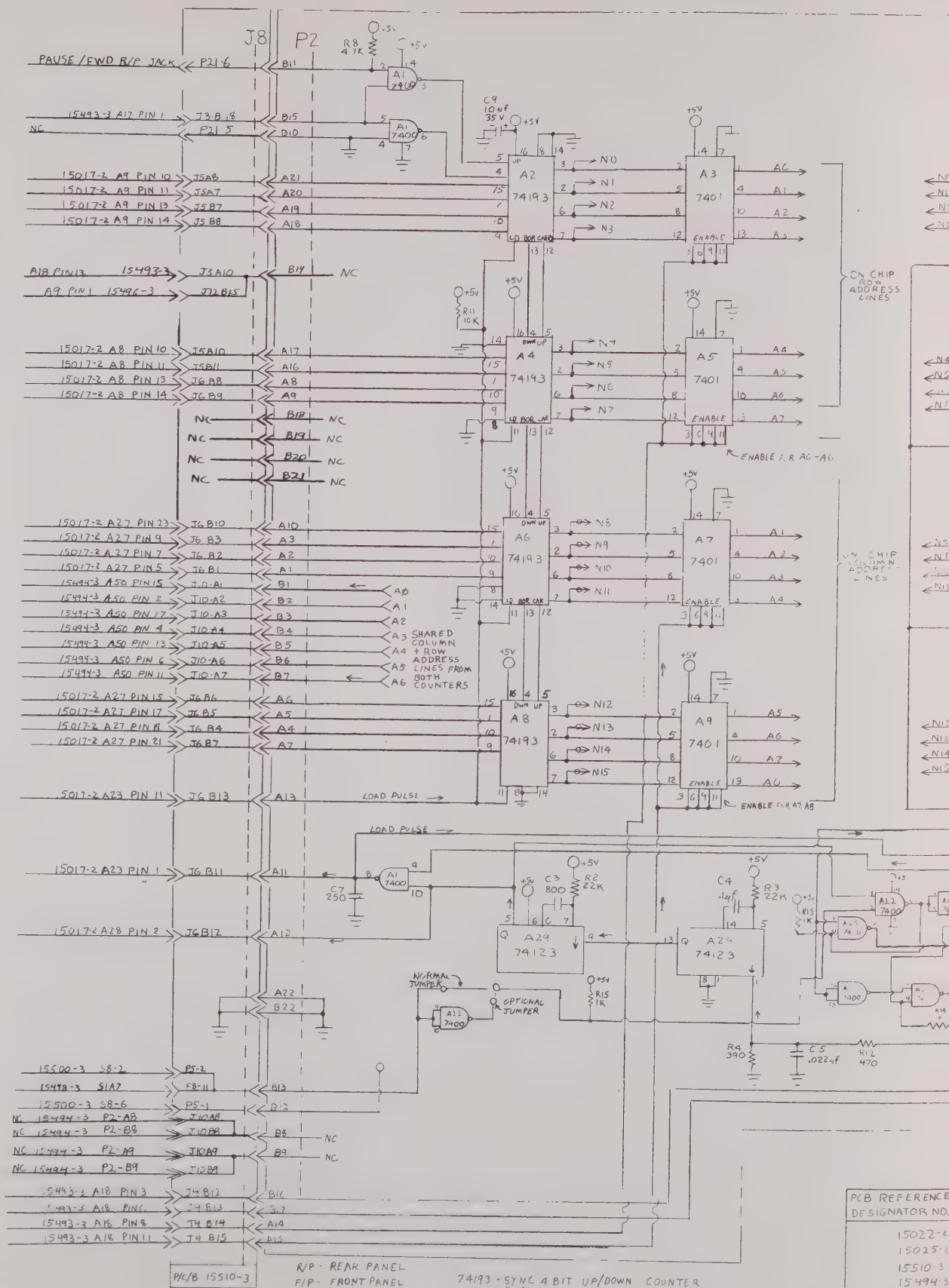
P/C/B DESIGNATOR	REFERENCE DESCRIPTION
15493-3	TIMING
15495-3	COUNTER
15496-3	A/D
15510-3	MOTHER BD.





ALL RESISTORS ARE IN OHMS, 1/4W UNLESS NOTED OTHERWISE
ALL CAPACITORS ARE IN PF UNLESS NOTED OTHERWISE
NC = NO CONNECTION, @ = BOARD EGRESS

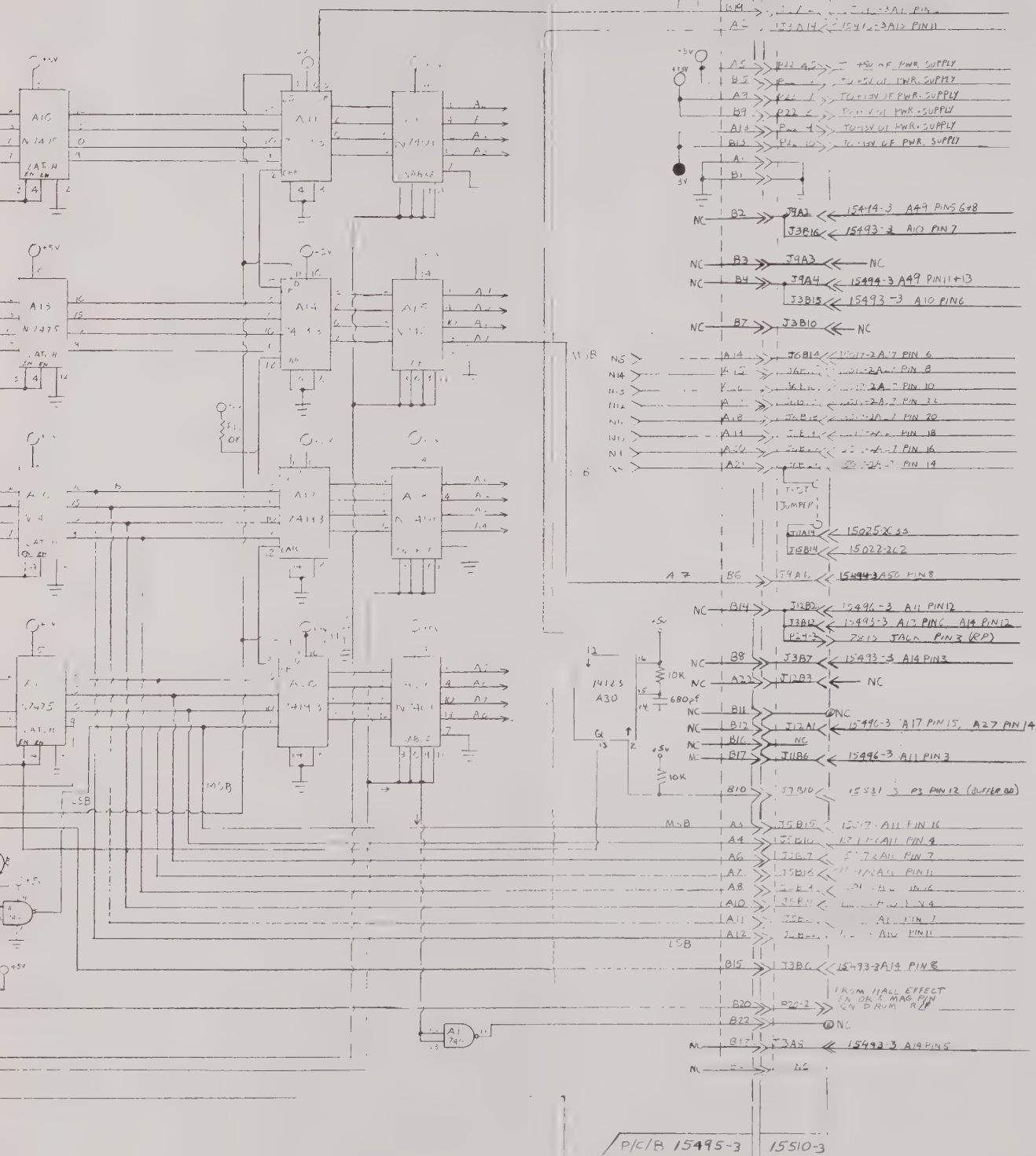
SCHEMATIC - MEMORY BD - D.S.G.				78508	
MAT.:		FINISH:		SCALE:	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL $\pm .005$		FRACTIONAL $\pm 1/64$		ANGULAR ± 30 MIN.	
ISSUE	CHANGE	DATE	APP.	OWN. BY	DATE
1	ADDED GUTS	7/21/84		W. J. S. G.	7/21/84
APP BY: R. J. SICO				DATE: 7/21/84	
SHEET 1 OF 1					
SIZE		DRAWING NO.		ISSUE	
C		5494-3		B	

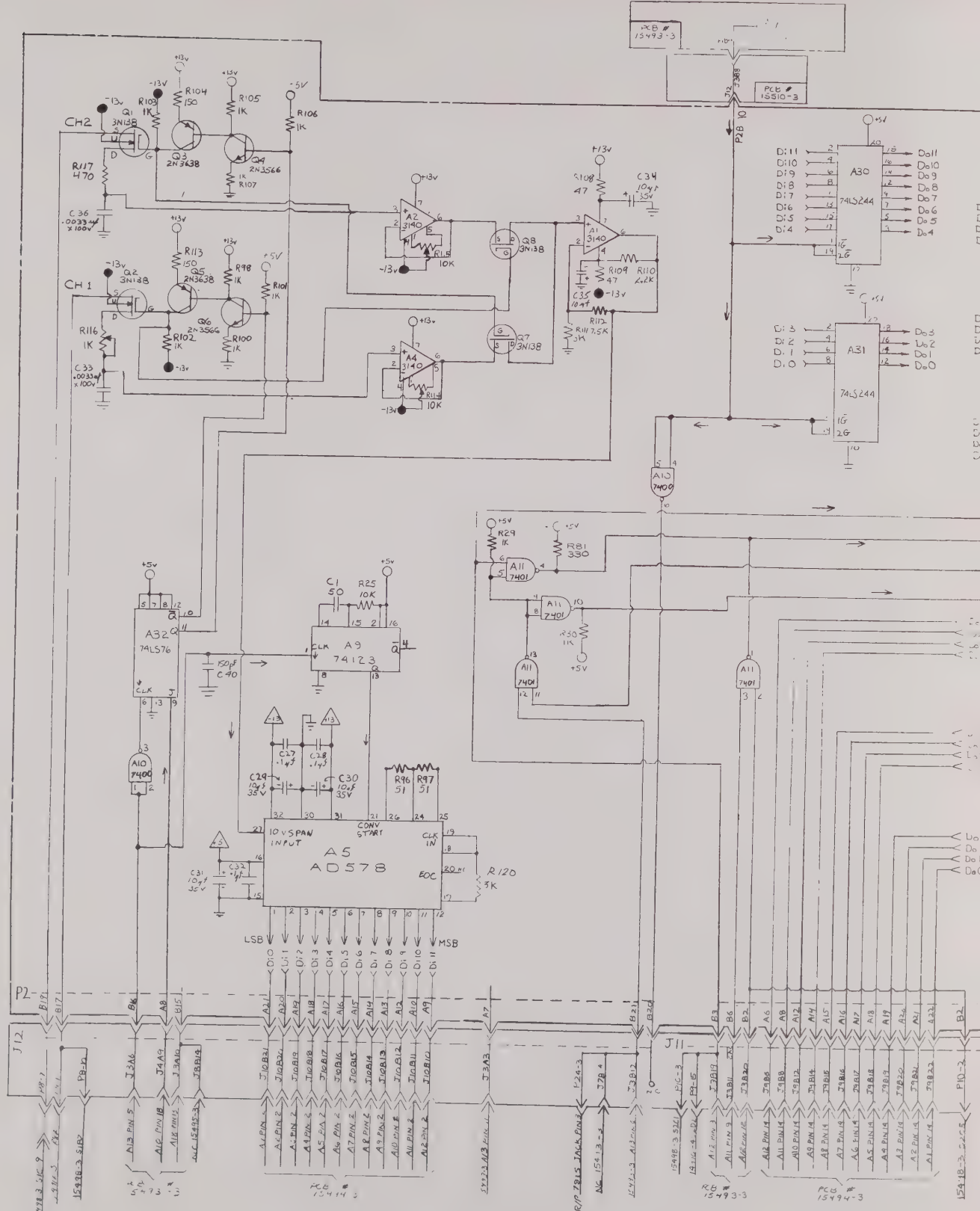


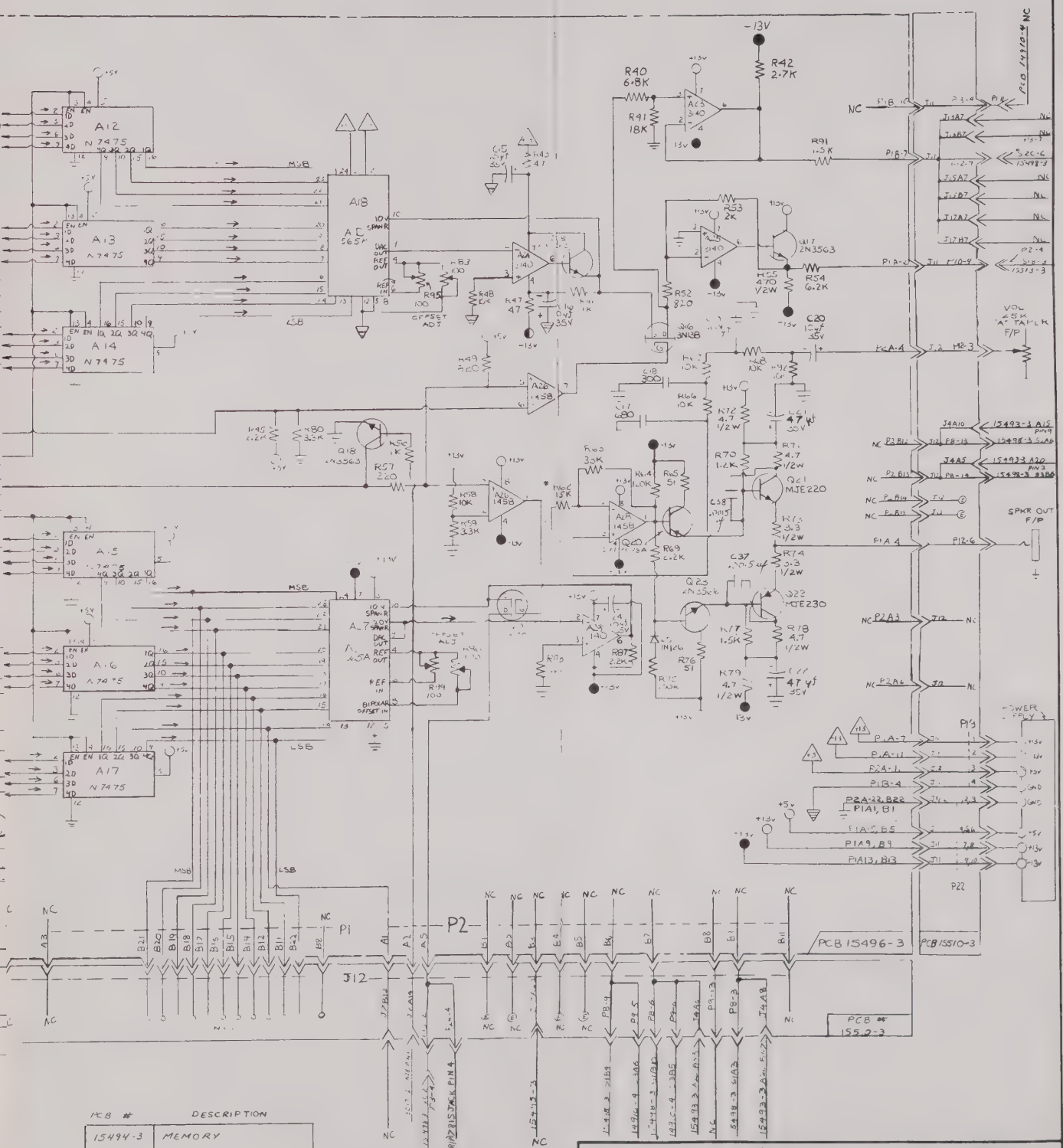
CARRIER OSC/AMP DIS
 CONTOUR DISPLAY
 MOTHER BD
 MEMORY BD
 GATING BD
 TIMING BD
 A/D BD
 GATING FUNCTION BD
 RECORD/PLAY

ALL RESISTOR VALUES ARE IN OHMS, $k\Omega$, $M\Omega$
 UNLESS NOTED OTHERWISE
 ALL CAPACITOR VALUES ARE IN PF
 UNLESS NOTED OTHERWISE
 NC INDICATES NO CONNECTION
 @ INDICATES BOARD ECHS.

MAT: 5495-3		DIGITAL: 15495-3		SCALE: 1:1	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL $\pm .005$	FRACTIONAL $\pm 1/64$	ANGULAR ± 30 MIN.			
ISSUE	CHANGE	DATE	APP.	OWN. BY	DATE
1	15495-3	10/1/73	WAS	WAS	10/1/73
2	15495-3	10/1/73	WAS	WAS	10/1/73
3	15495-3	10/1/73	WAS	WAS	10/1/73
SHEET 3 OF 3		DRAWING NO.		ISSUE	
15495-3		15510-3		D	







PCB # DESCRIPTION

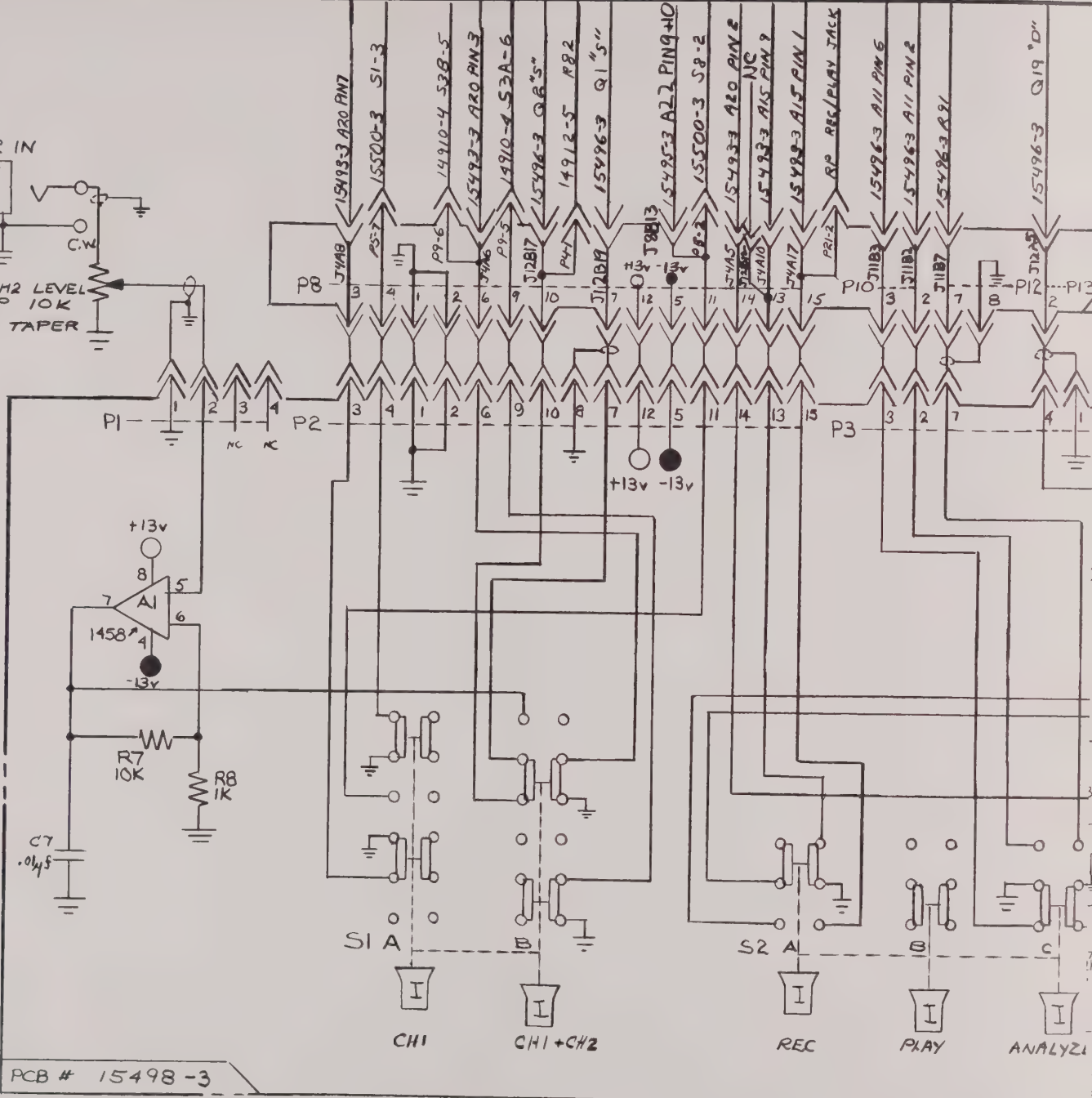
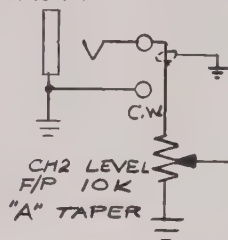
15494-3	MEMORY
15493-3	TIMING
14912-5	FILTER BD F/P
15498-3	RECORD PLAY F/P
15017-2	GATING
15513-3	ATT/FILTER F/P
14410-4	DISPLAY FUNCTIONS
15510-3	MOTHER GD

ALL RESISTOR VALUES ARE IN OHMS, $\frac{1}{4}W$ UNLESS NOTED OTHERWISE
 ALL CAPACITOR VALUES ARE IN PF UNLESS NOTED OTHERWISE
 NC INDICATES NO CONNECTION
 @ INDICATES BOARD EGRESS
 * R62 IS 33K FOR 7860 TE

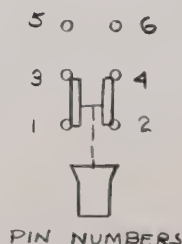
MAT: 15496-3		FINISH: 15496-3		SCALE: 1:1	
TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMAL $\pm .005$ FRACTIONAL $\pm 1/8$ ANGULAR $\pm 30MIN$					
CHANGE		DATE		APP.	
15496-3-1		1/1/78		J. H. H.	
15496-3-2		1/1/78		J. H. H.	
15496-3-3		1/1/78		J. H. H.	
15496-3-4		1/1/78		J. H. H.	
15496-3-5		1/1/78		J. H. H.	
15496-3-6		1/1/78		J. H. H.	
15496-3-7		1/1/78		J. H. H.	
15496-3-8		1/1/78		J. H. H.	
15496-3-9		1/1/78		J. H. H.	
15496-3-10		1/1/78		J. H. H.	
15496-3-11		1/1/78		J. H. H.	
15496-3-12		1/1/78		J. H. H.	
15496-3-13		1/1/78		J. H. H.	
15496-3-14		1/1/78		J. H. H.	
15496-3-15		1/1/78		J. H. H.	
15496-3-16		1/1/78		J. H. H.	
15496-3-17		1/1/78		J. H. H.	
15496-3-18		1/1/78		J. H. H.	
15496-3-19		1/1/78		J. H. H.	
15496-3-20		1/1/78		J. H. H.	
15496-3-21		1/1/78		J. H. H.	
15496-3-22		1/1/78		J. H. H.	
15496-3-23		1/1/78		J. H. H.	
15496-3-24		1/1/78		J. H. H.	
15496-3-25		1/1/78		J. H. H.	
15496-3-26		1/1/78		J. H. H.	
15496-3-27		1/1/78		J. H. H.	
15496-3-28		1/1/78		J. H. H.	
15496-3-29		1/1/78		J. H. H.	
15496-3-30		1/1/78		J. H. H.	
15496-3-31		1/1/78		J. H. H.	
15496-3-32		1/1/78		J. H. H.	
15496-3-33		1/1/78		J. H. H.	
15496-3-34		1/1/78		J. H. H.	
15496-3-35		1/1/78		J. H. H.	
15496-3-36		1/1/78		J. H. H.	
15496-3-37		1/1/78		J. H. H.	
15496-3-38		1/1/78		J. H. H.	
15496-3-39		1/1/78		J. H. H.	
15496-3-40		1/1/78		J. H. H.	
15496-3-41		1/1/78		J. H. H.	
15496-3-42		1/1/78		J. H. H.	
15496-3-43		1/1/78		J. H. H.	
15496-3-44		1/1/78		J. H. H.	
15496-3-45		1/1/78		J. H. H.	
15496-3-46		1/1/78		J. H. H.	
15496-3-47		1/1/78		J. H. H.	
15496-3-48		1/1/78		J. H. H.	
15496-3-49		1/1/78		J. H. H.	
15496-3-50		1/1/78		J. H. H.	
15496-3-51		1/1/78		J. H. H.	
15496-3-52		1/1/78		J. H. H.	
15496-3-53		1/1/78		J. H. H.	
15496-3-54		1/1/78		J. H. H.	
15496-3-55		1/1/78		J. H. H.	
15496-3-56		1/1/78		J. H. H.	
15496-3-57		1/1/78		J. H. H.	
15496-3-58		1/1/78		J. H. H.	
15496-3-59		1/1/78		J. H. H.	
15496-3-60		1/1/78		J. H. H.	
15496-3-61		1/1/78		J. H. H.	
15496-3-62		1/1/78		J. H. H.	
15496-3-63		1/1/78		J. H. H.	
15496-3-64		1/1/78		J. H. H.	
15496-3-65		1/1/78		J. H. H.	
15496-3-66		1/1/78		J. H. H.	
15496-3-67		1/1/78		J. H. H.	
15496-3-68		1/1/78		J. H. H.	
15496-3-69		1/1/78		J. H. H.	
15496-3-70		1/1/78		J. H. H.	
15496-3-71		1/1/78		J. H. H.	
15496-3-72		1/1/78		J. H. H.	
15496-3-73		1/1/78		J. H. H.	
15496-3-74		1/1/78		J. H. H.	
15496-3-75		1/1/78		J. H. H.	
15496-3-76		1/1/78		J. H. H.	
15496-3-77		1/1/78		J. H. H.	
15496-3-78		1/1/78		J. H. H.	
15496-3-79		1/1/78		J. H. H.	
15496-3-80		1/1/78		J. H. H.	
15496-3-81		1/1/78		J. H. H.	
15496-3-82		1/1/78		J. H. H.	
15496-3-83		1/1/78		J. H. H.	
15496-3-84		1/1/78		J. H. H.	
15496-3-85		1/1/78		J. H. H.	
15496-3-86		1/1/78		J. H. H.	
15496-3-87		1/1/78		J. H. H.	
15496-3-88		1/1/78		J. H. H.	
15496-3-89		1/1/78		J. H. H.	
15496-3-90		1/1/78		J. H. H.	
15496-3-91		1/1/78		J. H. H.	
15496-3-92		1/1/78		J. H. H.	
15496-3-93		1/1/78		J. H. H.	
15496-3-94		1/1/78		J. H. H.	
15496-3-95		1/1/78		J. H. H.	
15496-3-96		1/1/78		J. H. H.	
15496-3-97		1/1/78		J. H. H.	
15496-3-98		1/1/78		J. H. H.	
15496-3-99		1/1/78		J. H. H.	
15496-3-100		1/1/78		J. H. H.	

KAY ELEMETRICS CORP
 PINE BROOK, N. J.
 D 15496-3

CH2 IN



PCB # 15498-3



PIN NUMBERS

I INDICATES INTERLOCKED ACTION
 NC INDICATES NO CONNECTION
 F/P FRONT PANEL LOCATION
 R/P REAR PANEL LOCATION

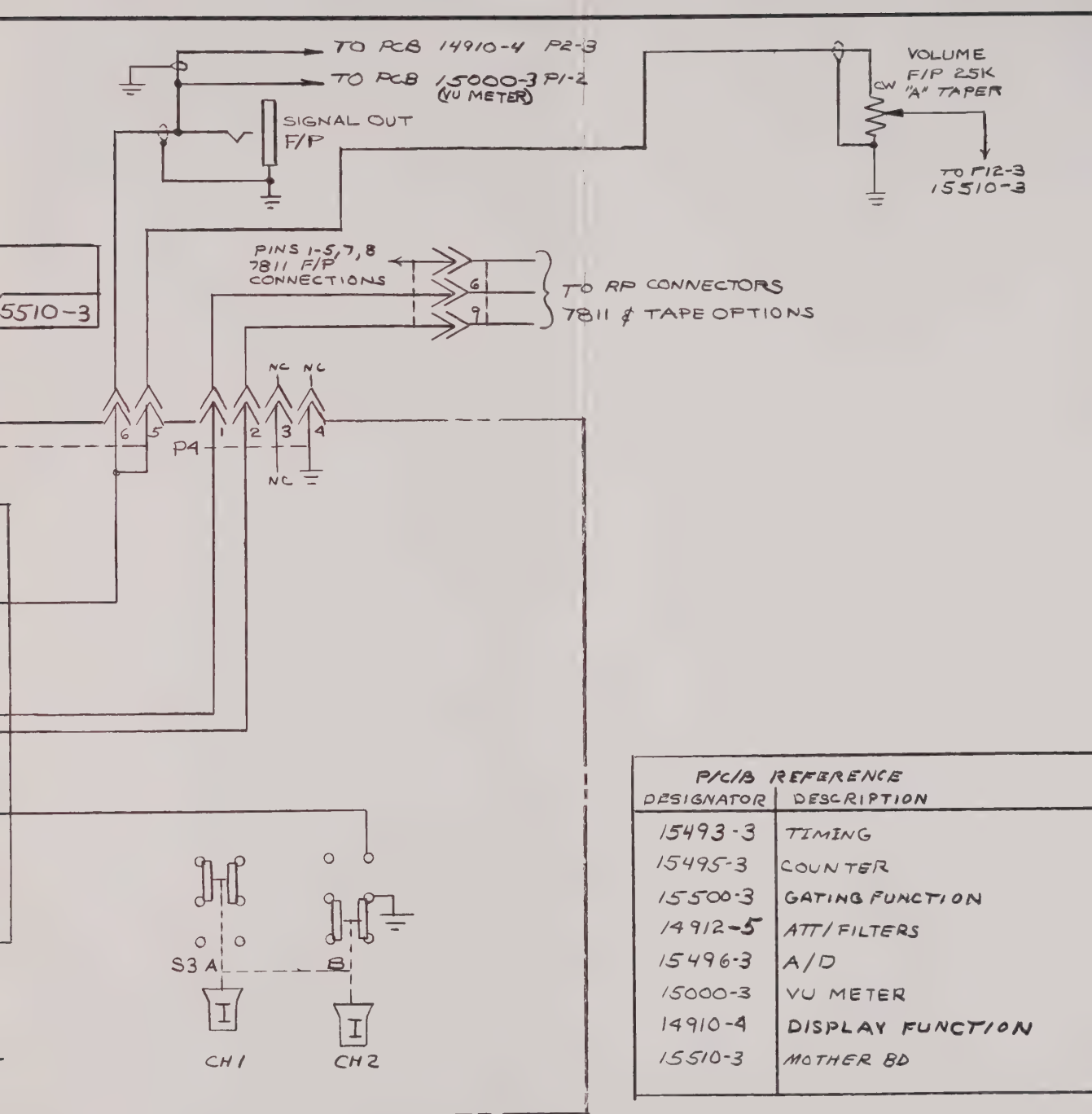
UNLESS INDICATED OTHERWISE:

ALL RESISTORS ARE IN OHMS, 1/4W, 5%
 ALL CAPACITORS ARE IN pF

***** IMPORTANT NOTICE *****
 ECN #2190 Changes:

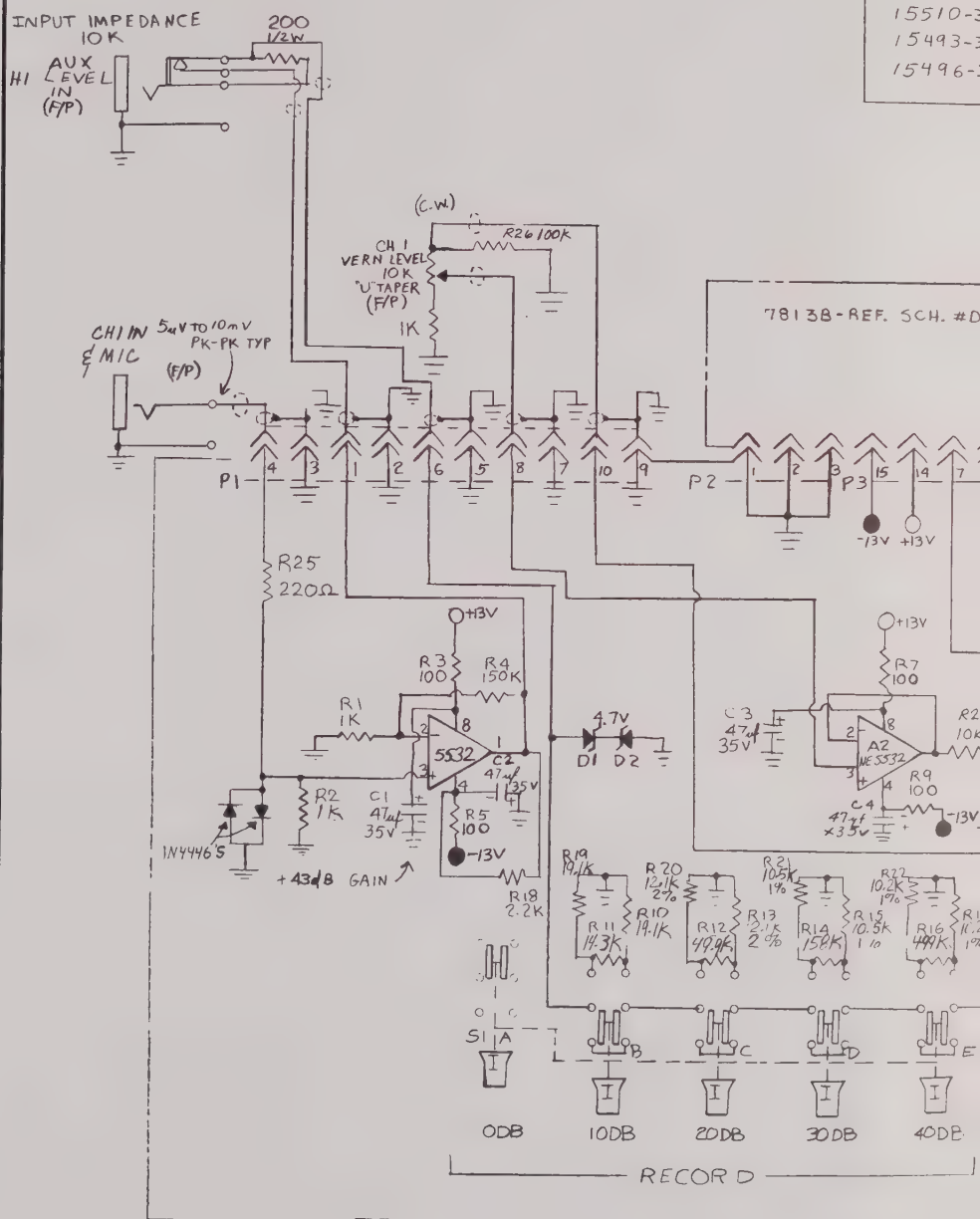
Upgrade to B15498-3C

Add jumper between Pins 1 and 3 of A1



SCHEMATIC		RECORD/PLAY		DSG		7800B	
MAT.: /		FINISH: /		SCALE: +			
TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR $\pm 30\text{MIN.}$							
ISSUE				DATE	APP.	KAY ELEMETRICS CORP PINE BROOK, N. J.	
B LABELLED QUTS, A22 PIN 9 & 10 WAS A25 PIN 4				8-1-83	PHM	DWN. BY Joe Jett	
						DATE 1/24/83	
						APP BY R. J. SICO	
						DATE 4-7-83	
						SHEET 1 OF 1	
SIZE		DRAWING NO.			ISSUE		
B		15,498-3			B		

MOD
P/
DESIGNATOR
15498-
14912-
15510-3
15493-3
15496-



NOTE : ALL RESISTORS ARE IN OHMS, 1/4W, 5%
UNLESS NOTED OTHERWISE

ALL CAPACITORS ARE IN P.F
UNLESS NOTED OTHERWISE

NC INDICATES NO CONNECTION

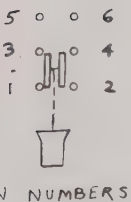
PCB CONNECTIONS:

MODEL 7800B REF. THIS SCHEMATIC

MODEL 7813B REF. SCHEMATIC D/5639

MODEL 7800TE REF. SCHEMATIC #C/6098

4912-6 (PCB #14912-6)



7800 TE

DUAL CHANNEL
DIGITAL SONA-GRAPH

78138
78000

FINISH:

SCALE: 1/8" = 1'-0"DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 30 MIN.

KAY ELEMETRICS CORP

PINE BROOK, N. J.

'B' SCHEMATIC CORRECTIONS

DATE	APP
------	-----

'C' Aug 78138 REF NOTE

10 18-63 RH

HEAVY - E - CE - CE - JAN - NO HALF A2 E4

2.1585 EJS

ECN: 2238 (AI was 3150), 2241 (Add on p4-3)
ECN 2256 (Add note 2800 RE RE)

2000

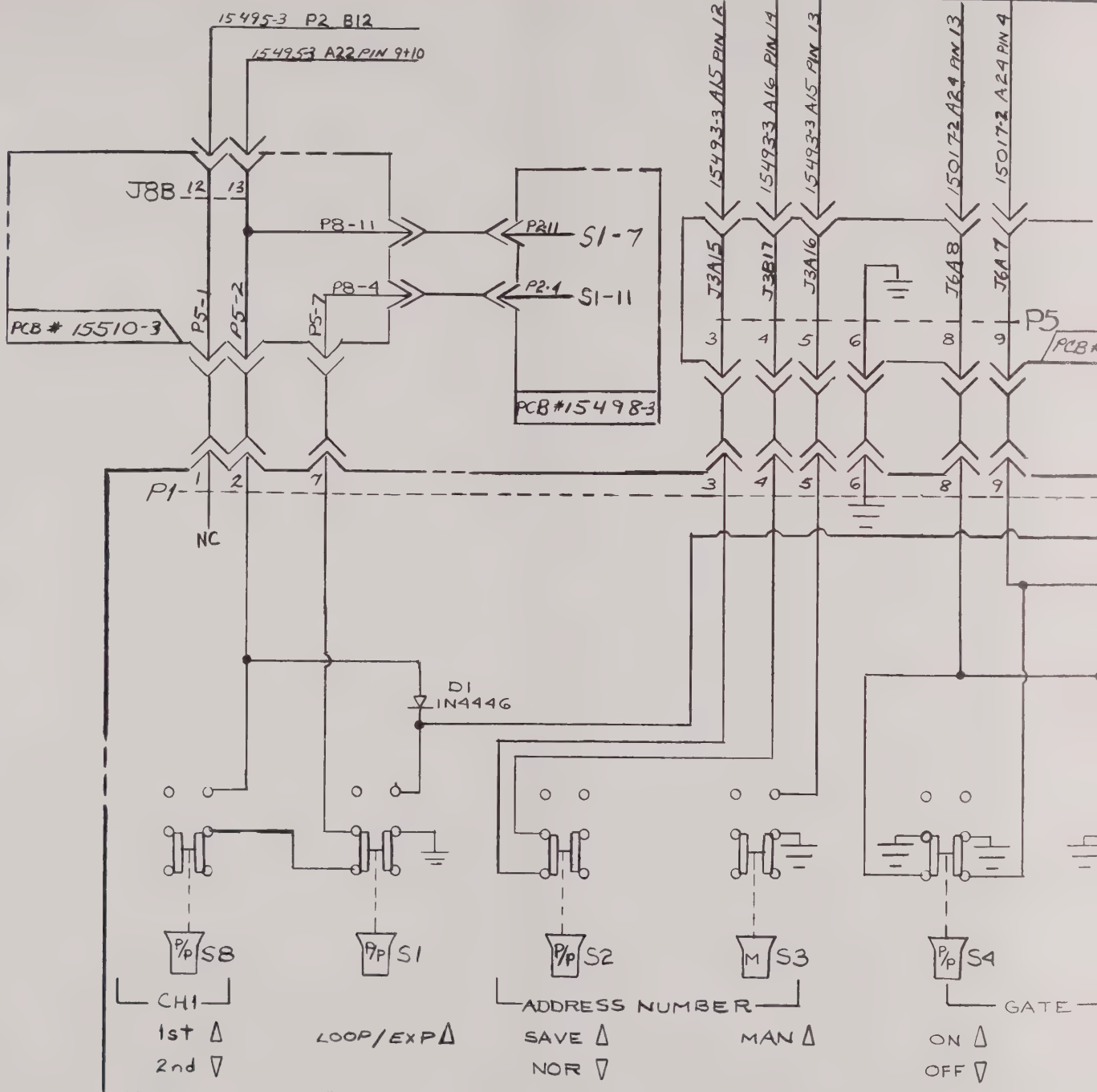
DWN BY 07

DATE 1/5/82

APP BY *R. V. SICO*

DATE 11 3 10

DWG. NO. C15499-3F



NOTE: M = MOMENTARY ACTION
P/P = PUSH PUSH ACTION
I = INTERLOCK ACTION
ALL RESISTORS ARE IN ohms, 1/4w
NC INDICATES NO CONNECTION

***** IMPORTANT NOTICE *****
ECN #2194 Changes: Upgrade to B15,500-3D

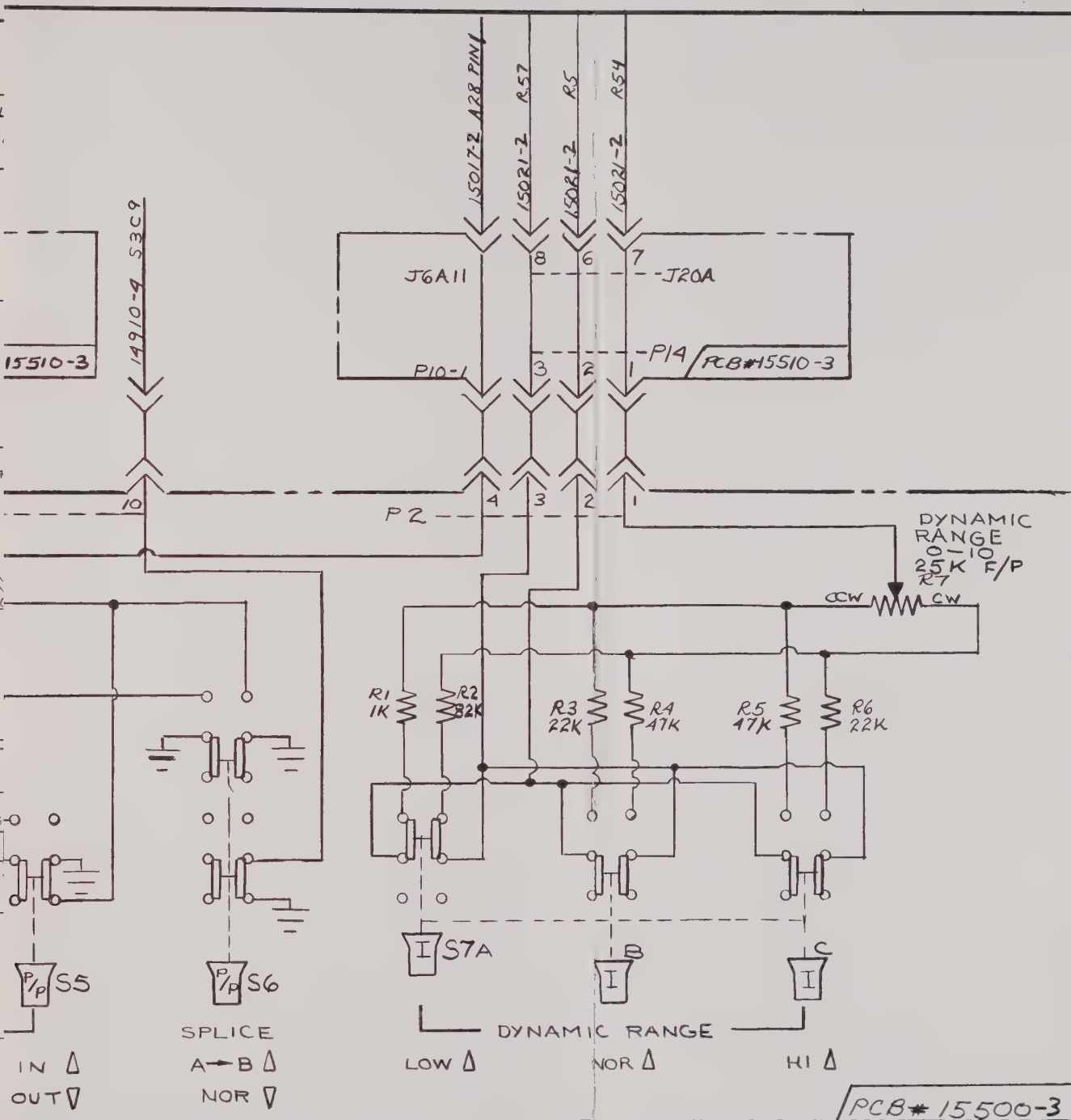
S1 should be labeled Start Point Select,
Address B,000
S8 should be labeled Extended Memory
Select, 0-128, 128-256

P/C/B REFERENCE	
DESIGNATOR	DESCRIPTION
14910-4	DISPLAY FUNCTION
15017-2	GATING
15021-2	FILTERS + AGC
15493-3	TIMING
15495-3	COUNTER
15498-3	RECORD/PLAY
15510-3	MOTHER

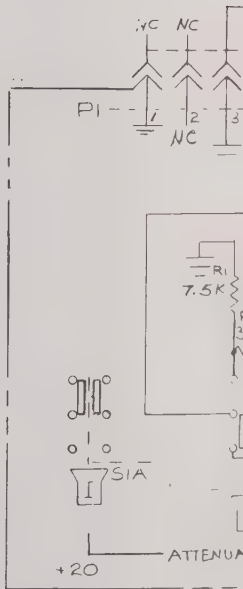
5 0 0 6



PIN NUMBERS



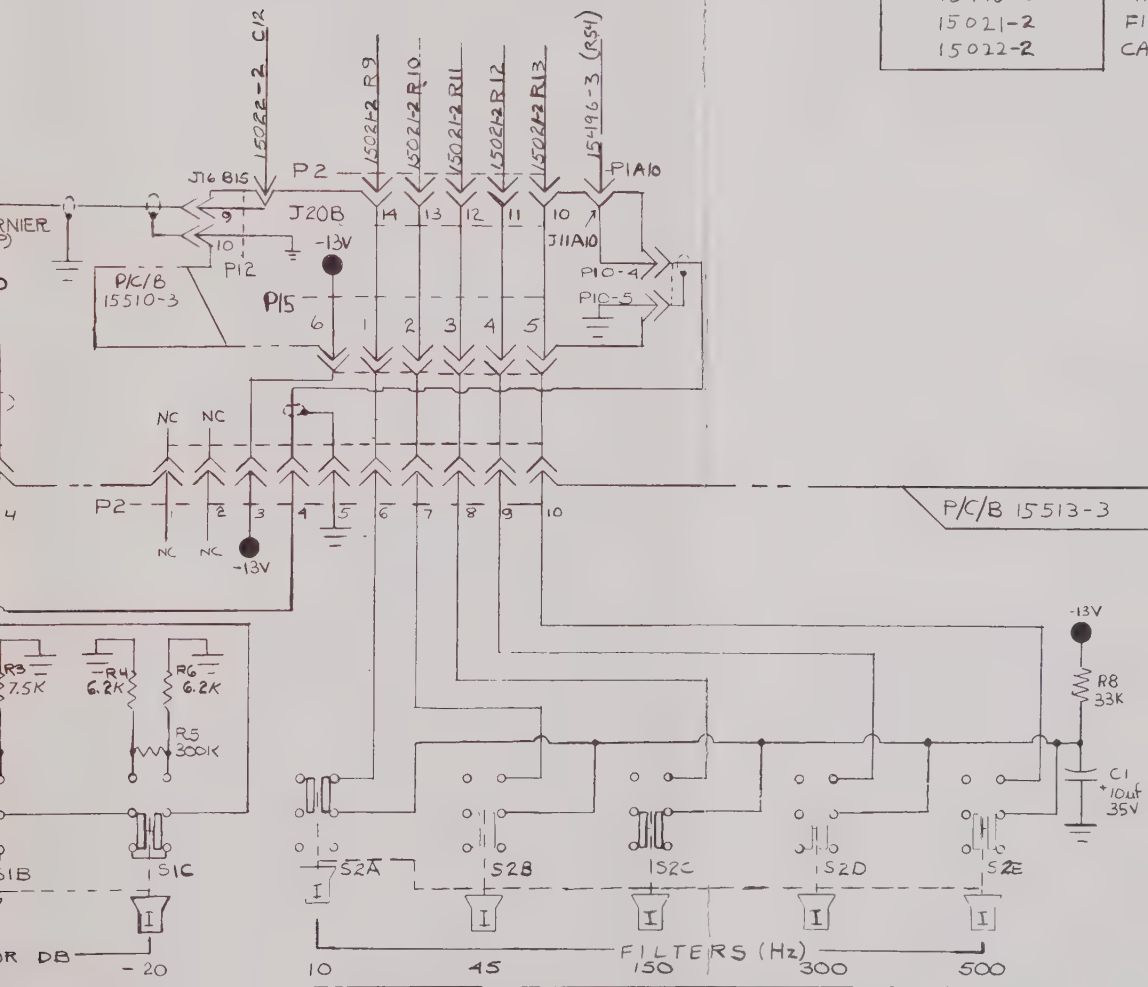
SCHEMATIC <GATING FUNCTION>		D.S.G.		7800B	
MAT.: <i>1</i>		FINISH: <i>1</i>		SCALE: <i>1</i>	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL ± .005		FRACTIONAL ± 1/64		ANGULAR ± 30MIN.	
ISSUE		CHANGE		DATE APP.	
B1		CORRECT REF. : 15510-3; P8B-12, 13 to PCB 15495-3		8-1-83 JH, B	
C		ECN 2107: 58 CKT CHG		8-3-83 BJO	
KAY ELECTRONICS CORP				PINE BROOK, N.J.	
DWN. BY <i>J. Fett</i>		DATE <i>1-3-83</i>			
APP BY <i>J. Morris</i>		DATE <i>1/24/83</i>			
SHEET <i>1</i>		OF <i>1</i>			
SIZE		DRAWING NO.		ISSUE	
<i>B</i>		<i>15,500-3</i>		<i>C</i>	



P/C/B REFERENCE
DESIGNATOR NO.

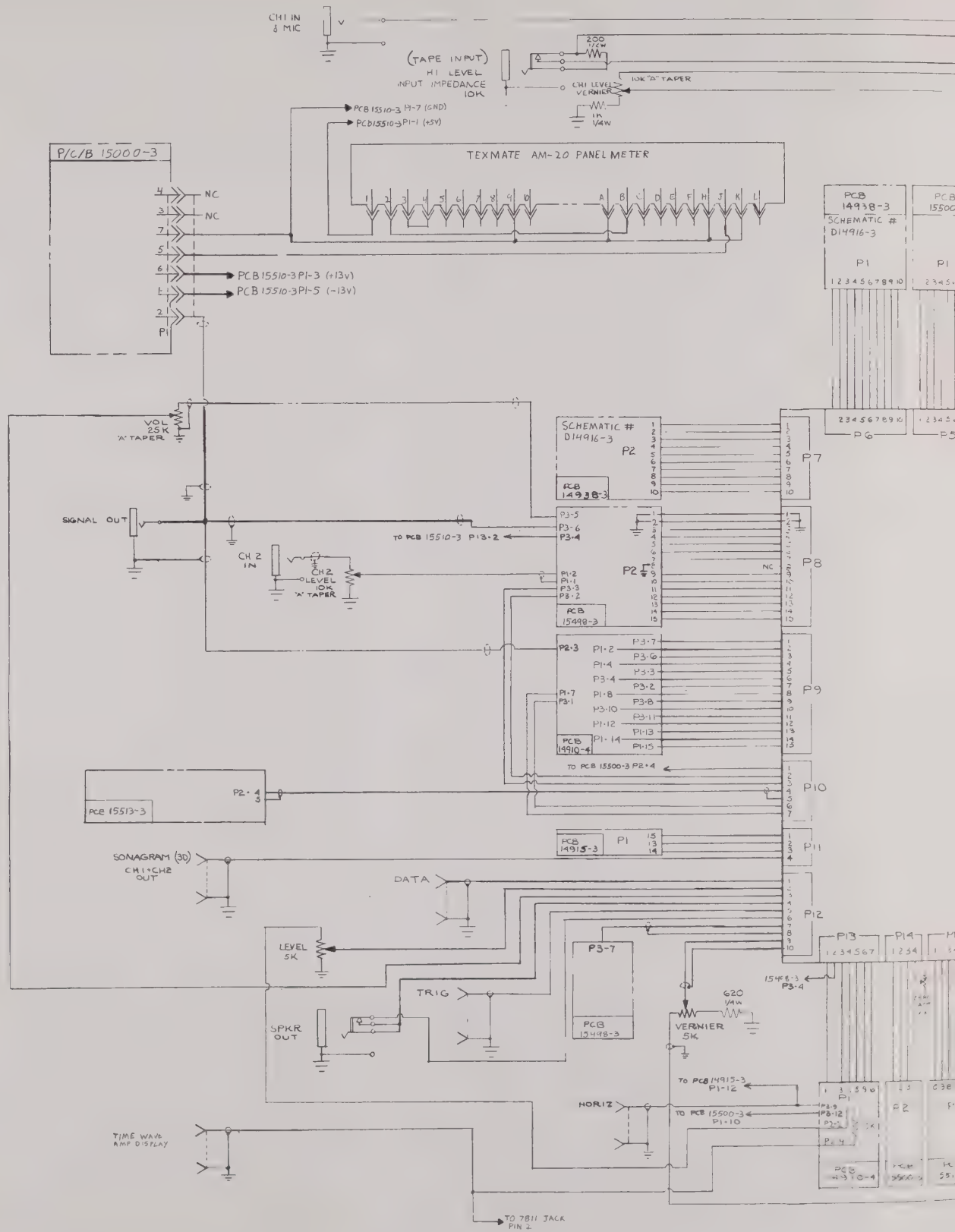
15510-3
15496-3
15021-2
15022-2

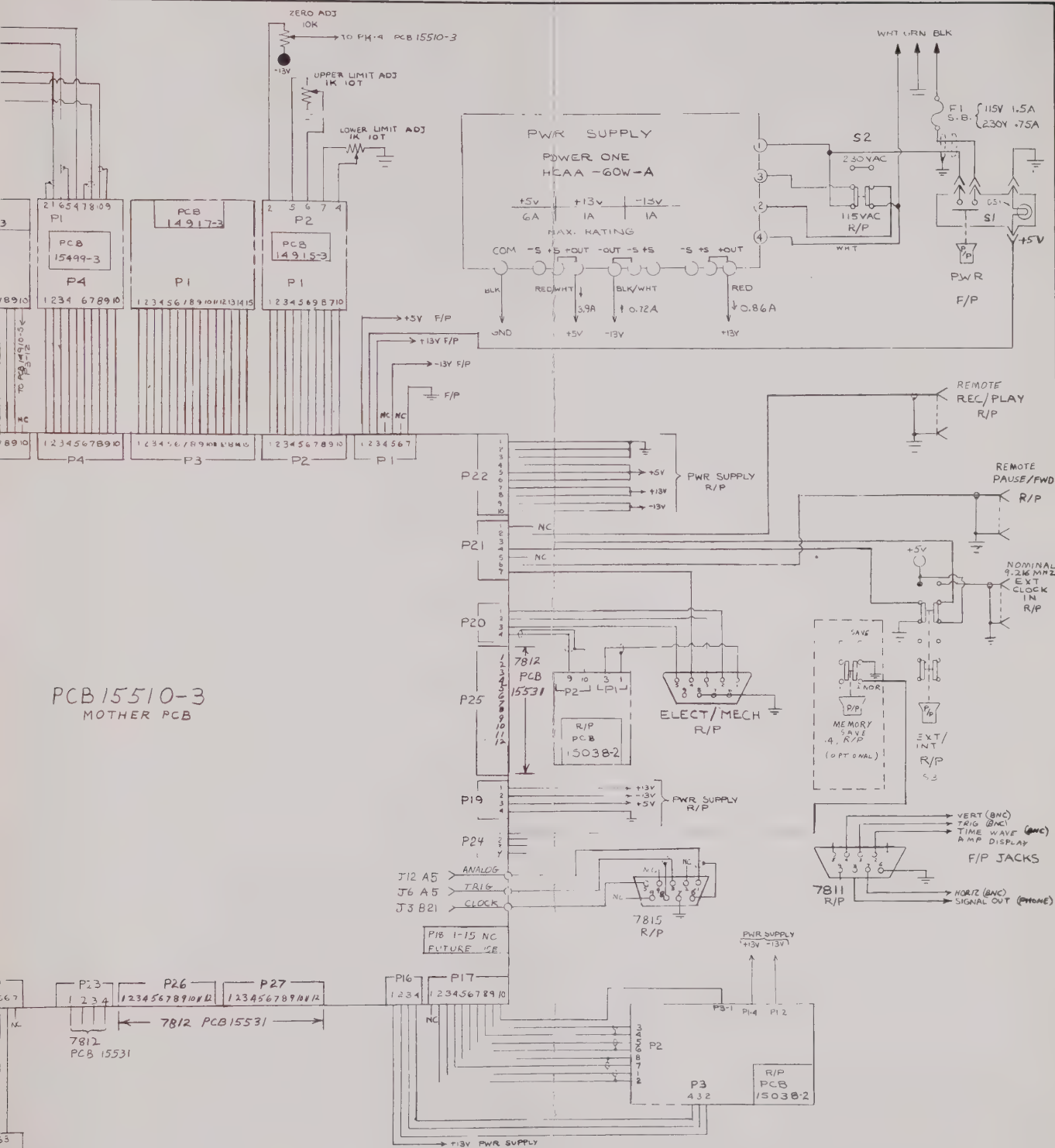
MOTHER Bd.
A/D
FILTER
CARRIER OSC.



NOTE: ALL RESISTORS ARE IN OHMS, 1/4 W, 5%
FILTER BANDWIDTH SHOWN FOR 8 kHz RANGE ONLY
P/C/B 15513-3: 7800TE APPLICATION REF. SCH. # C/6100

DISPLAY ATTN/FILTER DIGITAL SONA-GRAPH		7800TE, 7800B	
MAT.		FINISH:	
TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 30 MIN.		SCALE:	
CHANGE		DATE APP	
B. SCH CORRECTIONS delete R7 (5K) P14 (6.2K) C14 (10uF 35V) C15 (10uF 35V) C16 (10uF 35V) C17 (10uF 35V) C18 (10uF 35V) C19 (10uF 35V) C20 (10uF 35V) C21 (10uF 35V) C22 (10uF 35V) C23 (10uF 35V) C24 (10uF 35V) C25 (10uF 35V) C26 (10uF 35V) C27 (10uF 35V) C28 (10uF 35V) C29 (10uF 35V) C30 (10uF 35V) C31 (10uF 35V) C32 (10uF 35V) C33 (10uF 35V) C34 (10uF 35V) C35 (10uF 35V) C36 (10uF 35V) C37 (10uF 35V) C38 (10uF 35V) C39 (10uF 35V) C40 (10uF 35V) C41 (10uF 35V) C42 (10uF 35V) C43 (10uF 35V) C44 (10uF 35V) C45 (10uF 35V) C46 (10uF 35V) C47 (10uF 35V) C48 (10uF 35V) C49 (10uF 35V) C50 (10uF 35V) C51 (10uF 35V) C52 (10uF 35V) C53 (10uF 35V) C54 (10uF 35V) C55 (10uF 35V) C56 (10uF 35V) C57 (10uF 35V) C58 (10uF 35V) C59 (10uF 35V) C60 (10uF 35V) C61 (10uF 35V) C62 (10uF 35V) C63 (10uF 35V) C64 (10uF 35V) C65 (10uF 35V) C66 (10uF 35V) C67 (10uF 35V) C68 (10uF 35V) C69 (10uF 35V) C70 (10uF 35V) C71 (10uF 35V) C72 (10uF 35V) C73 (10uF 35V) C74 (10uF 35V) C75 (10uF 35V) C76 (10uF 35V) C77 (10uF 35V) C78 (10uF 35V) C79 (10uF 35V) C80 (10uF 35V) C81 (10uF 35V) C82 (10uF 35V) C83 (10uF 35V) C84 (10uF 35V) C85 (10uF 35V) C86 (10uF 35V) C87 (10uF 35V) C88 (10uF 35V) C89 (10uF 35V) C90 (10uF 35V) C91 (10uF 35V) C92 (10uF 35V) C93 (10uF 35V) C94 (10uF 35V) C95 (10uF 35V) C96 (10uF 35V) C97 (10uF 35V) C98 (10uF 35V) C99 (10uF 35V) C100 (10uF 35V)		DATE APP	
OWN BY: T. J. ...		DATE: 1/10/83	
APP. BY: R. J. ...		DATE: 10-7-83	
DWG. NO. C15513-3C			





NOTE: ALL PCBs, RESISTORS, POTS, & JACKS ARE FRONT PANEL
UNLESS NOTED OTHERWISE
NC INDICATES NO CONNECTION
ALL POTS ARE LINEAR TAPER UNLESS NOTED OTHERWISE
R/P INDICATES REAR PANEL

INTERCONNECTION SCHEMATIC DIGITAL SONA-GRAH 7800B			
MAT	+	FINISH	SCALE
TOLERANCES UNLESS OTHERWISE SPECIFIED: DECIMAL $\pm .005$ FRACTIONAL $\pm 1/64$ ANGULAR ± 30 MIN			
KAY ELECTRONICS CORP. PINE BROOK, N. J.			
CHANGE	DATE	APP	OWN BY
1. 15510-3	1/15/68	P. J. Kay	P. J. Kay
2. 15510-3	1/15/68	P. J. Kay	P. J. Kay
3. 15510-3	1/15/68	P. J. Kay	P. J. Kay
4. 15510-3	1/15/68	P. J. Kay	P. J. Kay
5. 15510-3	1/15/68	P. J. Kay	P. J. Kay
6. 15510-3	1/15/68	P. J. Kay	P. J. Kay
7. 15510-3	1/15/68	P. J. Kay	P. J. Kay
8. 15510-3	1/15/68	P. J. Kay	P. J. Kay
9. 15510-3	1/15/68	P. J. Kay	P. J. Kay
10. 15510-3	1/15/68	P. J. Kay	P. J. Kay
DWG. NO. D15515E			

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)

)

PARTS LIST

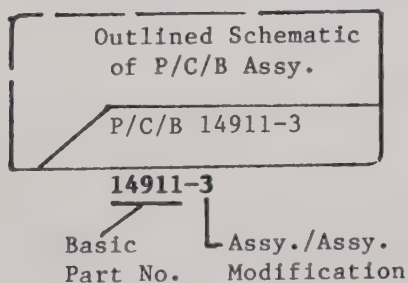
INTRODUCTION

This section list all of the parts in the Digital Sona-Graph, model 7800 and printer, model 7900. Virtually every component on the Digital Sona-Graph is available as a spare part. Individual circuits or entire printed circuit boards (PCB) can be purchased as spare parts. All parts purchase through Kay Elemetrics Corp must include the Kay 8-digit part number. If more convenient the user can purchase parts directly from the original manufacturer (manufacturer name and part number are also listed in the parts list).

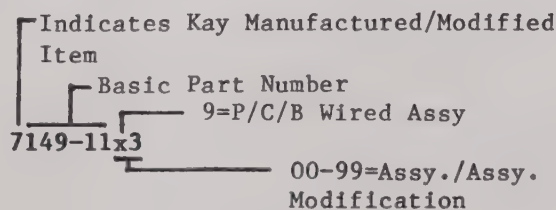
Most of the ciruitry for the Digital Sona-Graph is contained on printed circuit boards. For this reason the parts list has been subdivided by PCB (or assembly number). These boards and other modules for the 7800 and the 7900 are listed on the next page.

NOTE: Assembly numbers (parts list numbers for complete PCBs), reference module/board numbers and schematic numbers relate as shown below and in the cross reference table.

PCB REFERENCE
DESIGNATION NO.:



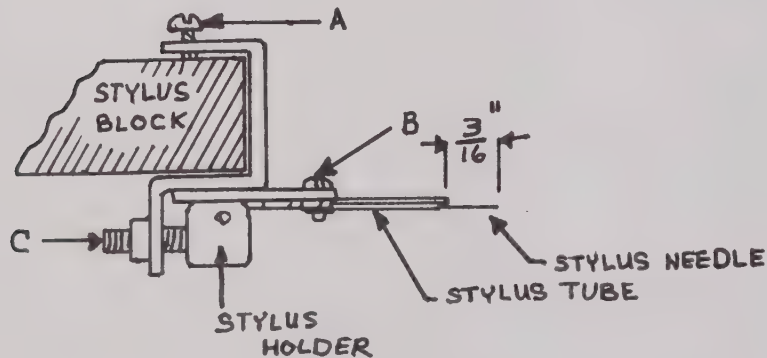
KAY 8-DIGIT PART NUMBER



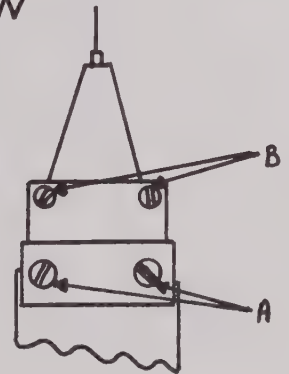
STYLUS NEEDLE REPLACEMENT PROCEDURE

1. Loosen two stylus assembly mounting screws (A), and slide assembly away from the block.
2. Remove two stylus plate mounting screws and nuts (B), and pull plate forward sliding the tube away from the stylus needle.
3. Turn stylus adjusting screw (C) clockwise, removing the stylus holder.
4. Loosen stylus needle set screw and replace the stylus.
5. Reassemble the assembly taking care not to bend the needle when inserting it into the stylus tube. Set adjusting screw to allow the needle to protrude $\frac{3}{16}$ " beyond the tube. Insert a sheet of crocus cloth onto the drum. Shape the needle by running it against the crocus cloth for 5 seconds.

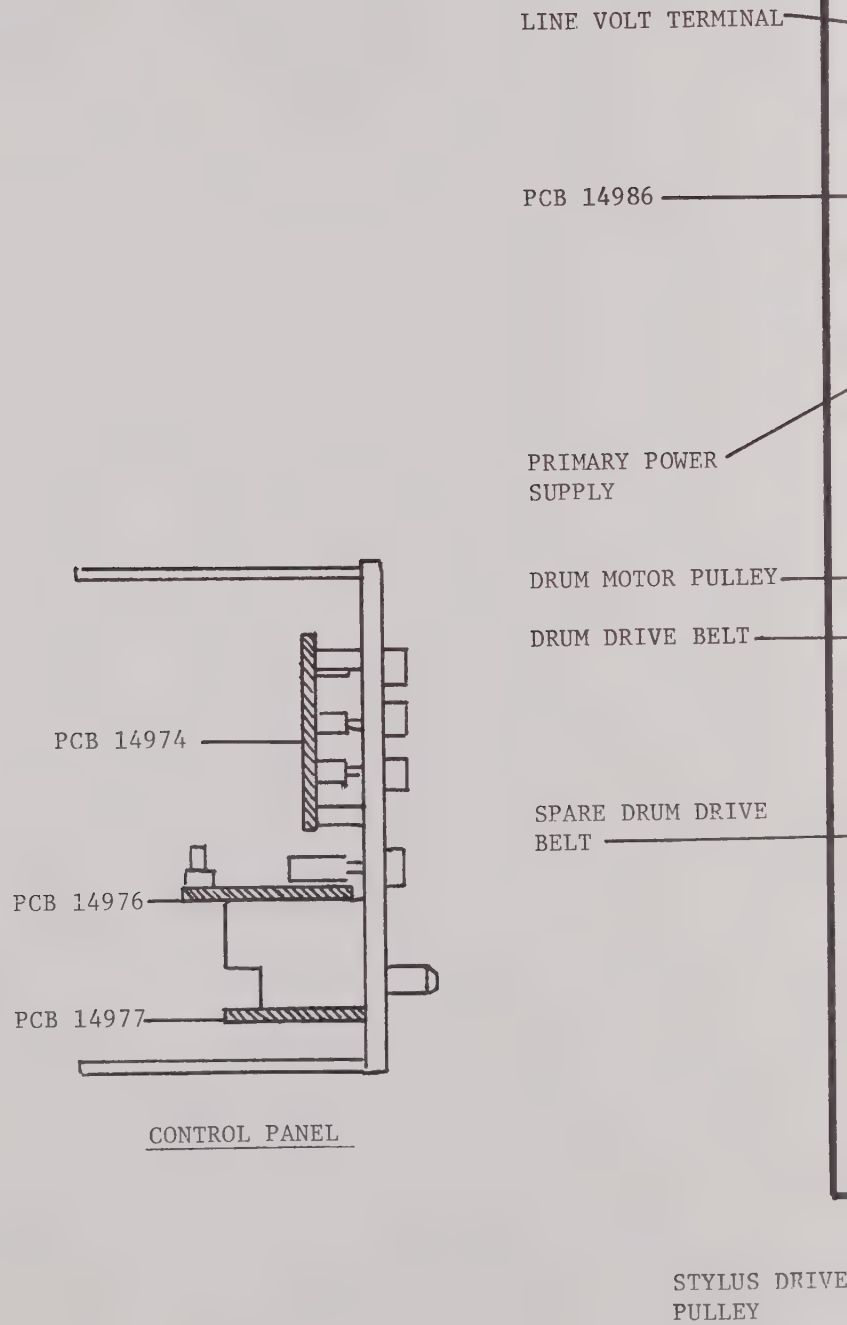
SIDE VIEW

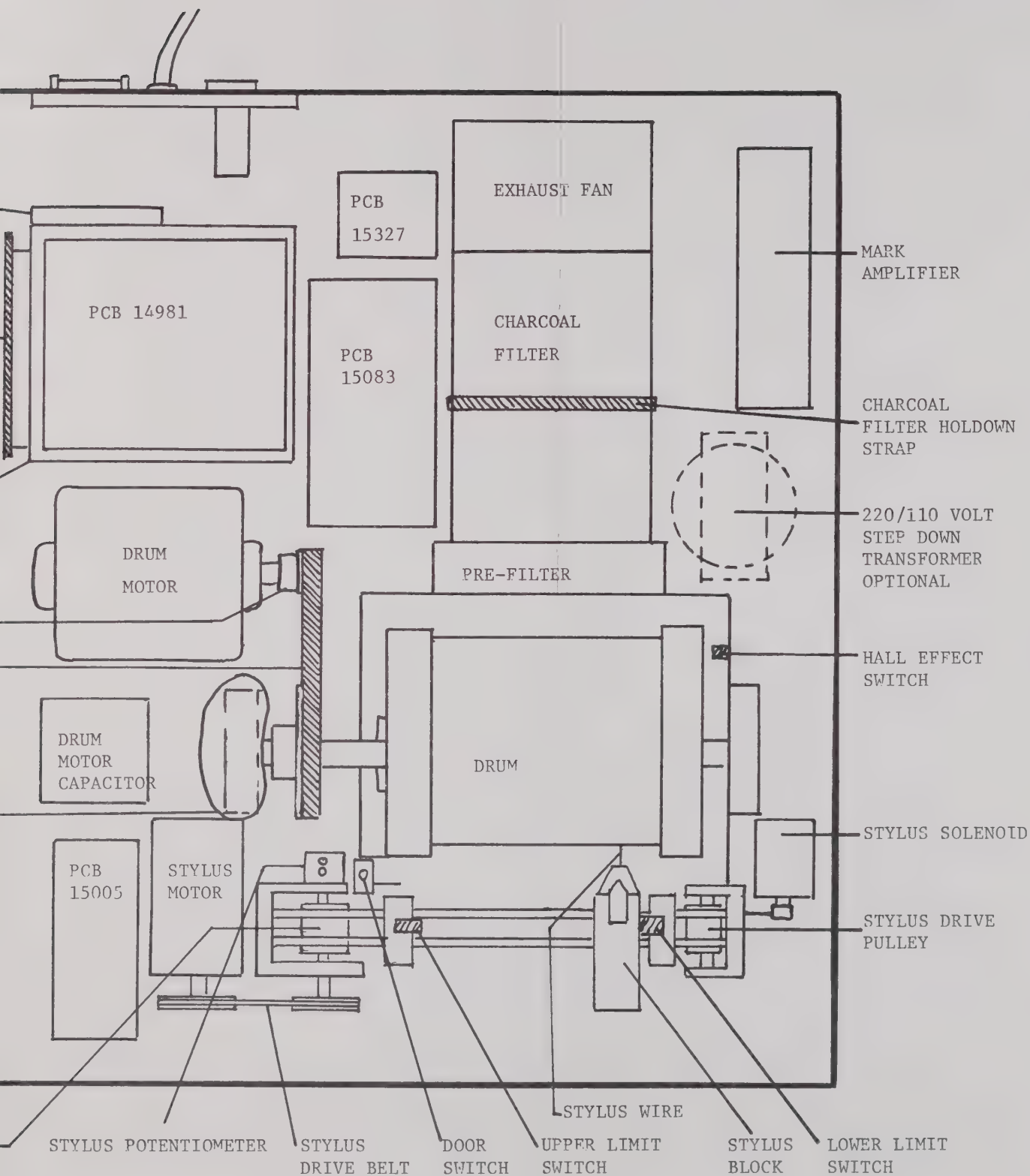


TOP VIEW



7900 INTERIOR PARTS LOCATION



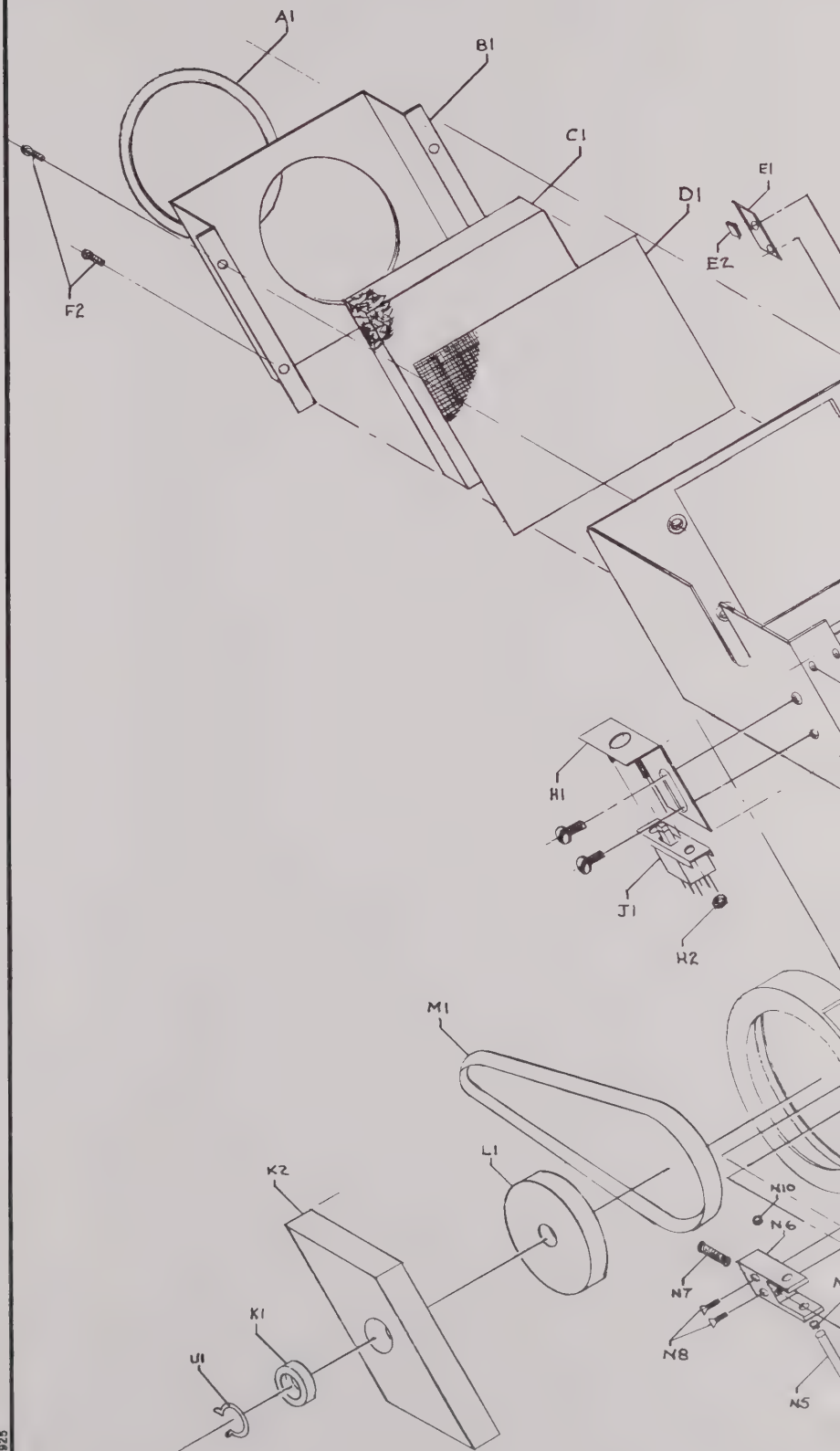


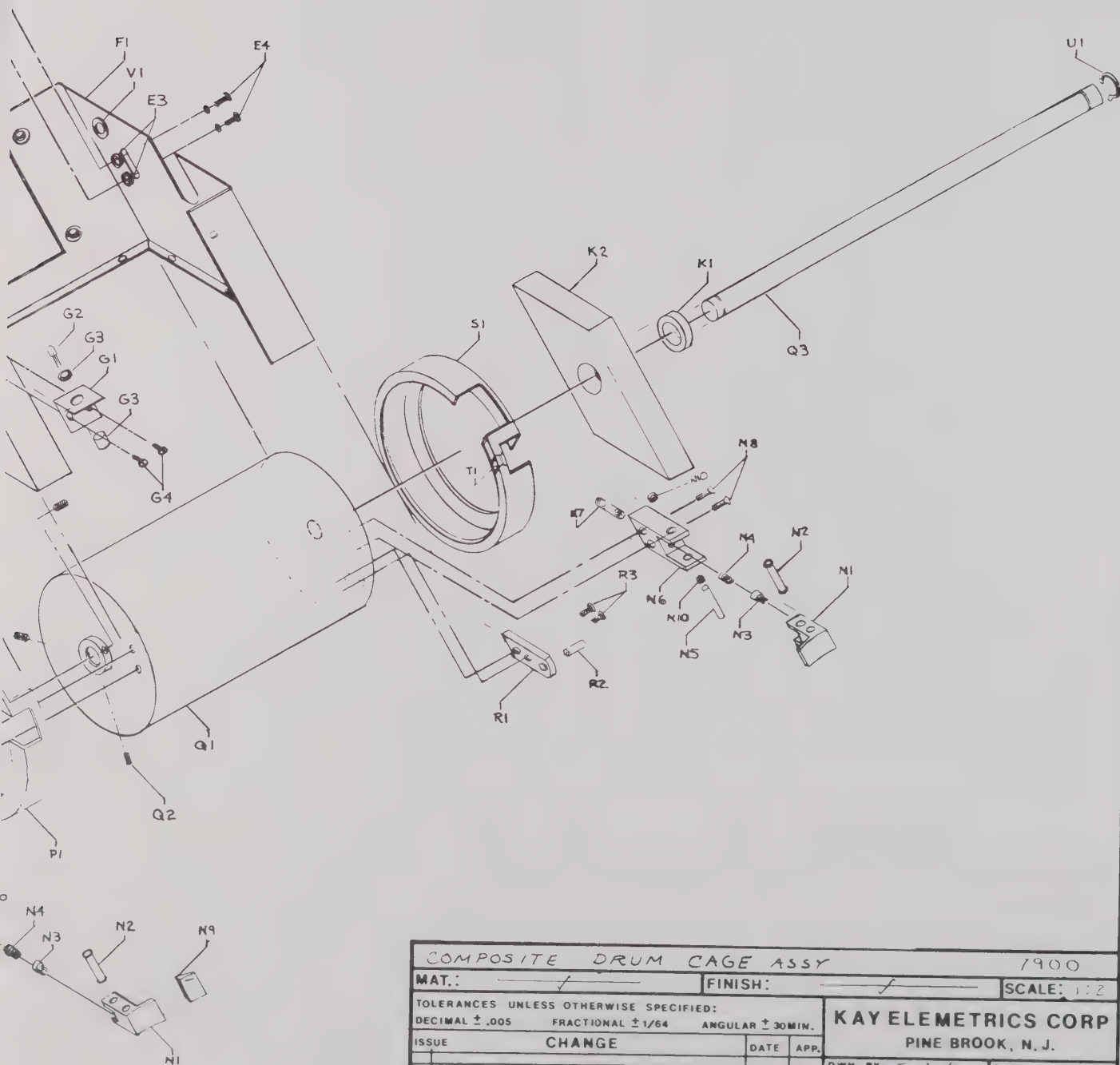
MODEL 7900
COMPOSITE DRUM CAGE ASSY 7156-7500

<u>Fig Ref #</u>	<u>Sub Assy</u>	<u>Pt #</u>	<u>Description</u>	<u>Qty/Assy</u>
A1		0562-0034	GROMMET, MIN RUB #Z4105	1
B1		7151-0700	HOUSING PARTICLE FILTER	1
C1		7152-1100	PARTICLE FILTER FIBERGLASS	2
D1		7151-1000	SCREEN VENT	1
E1	HALL EFFECT ASSY	7148-8000	BLOCK, PCB	1
E2	"	0201-0099	IC, TL172C, HALL EFFECT SWITCH	1
F1		7151-0800	COWLING EXHAUST	1
G1	LED ASSY	7152-6100	BRACKET, SHORT POINT	1
G2	"	1450-0018	LAMP, LED, DIALCO 521-9200	1
G3	"	1450-0017	LAMP HOLDER, DIALCO 515-0005	1
G4	"		4-40 BHS 1/4"	2
H1	SWITCH HOLDER ASSY	7152-4700	BRACKET, CUT OFF SWITCH	1
H2	"		4-40 NUT	2
J1		3104-0031	SWITCH, CENTRALAB # MPI	1
K1	END BLOCK ASSY	1410-0015	BEARING, ALLIED DEVICES 2064	2
K2	"	7148-6300	DRUM MT DSG	2
L1		7148-6400	PULLEY, DRUM SHAFT	1
M1		1111-0295	BELT, BELTING IND, 3/8"X12"X.005	1
N1	PAPER CLAMP ASSY	7148-8100	BUTTON PAPER LOCK	2
N2	"	7148-9900	PIN, SWITCH LOCK SPRING	2
N3	"	7051-6700	RETAINER, LG, 254T, NAT'L MOLDING	2
N4	"	1111-0287	SPRING, ASSOC # C0180-029-0380M	2
N5	"	1111-0284	DOWEL PIN, STOCK DR#9X31-0424	2
N6	"	7148-8200	HINGE, PAPER LOCK	2
N7	"	2200-0165	SCREW, SET, FLAT TIP, B, 10-32X1/2"	2
N8	"		4-40 FHS	
N9	"	7151-5300	PAPER LOCK Pad (See 1111-0285)	2
N10	"	1410-0016	BEARING, STOCK DR#7B4-PO92	4

<u>Fig Ref #</u>	<u>Sub Assy</u>	<u>Pt#</u>	<u>Description</u>	<u>QYT/ASSY</u>
P1		7148-5800	RING, LEFT PAPER RETAIN	1
Q1	DRUM & SHAFT ASSY		(See 7151-8200)	1
Q2	"		6-32 SET SCREW	6
R1	MAGNET ASSY	7155-7600	BLOCK, DRUM MAGNET MTG	1
R2	"	7090-0600	TRIP PIN MAG (See 7090-0677)	1
S1		7148-5900	RING, RIGHT PAPER RETAIN	1
T1		7152-4800	ZERO CLIP	1
U1		1111-0253	RING, RETAIN STOCK DR#9027-50	2
V1		0562-0002	GROMMET, 5/16", MIN RUB #AN931-3-5	1

* All like prefixes are available only as sub assemblies.





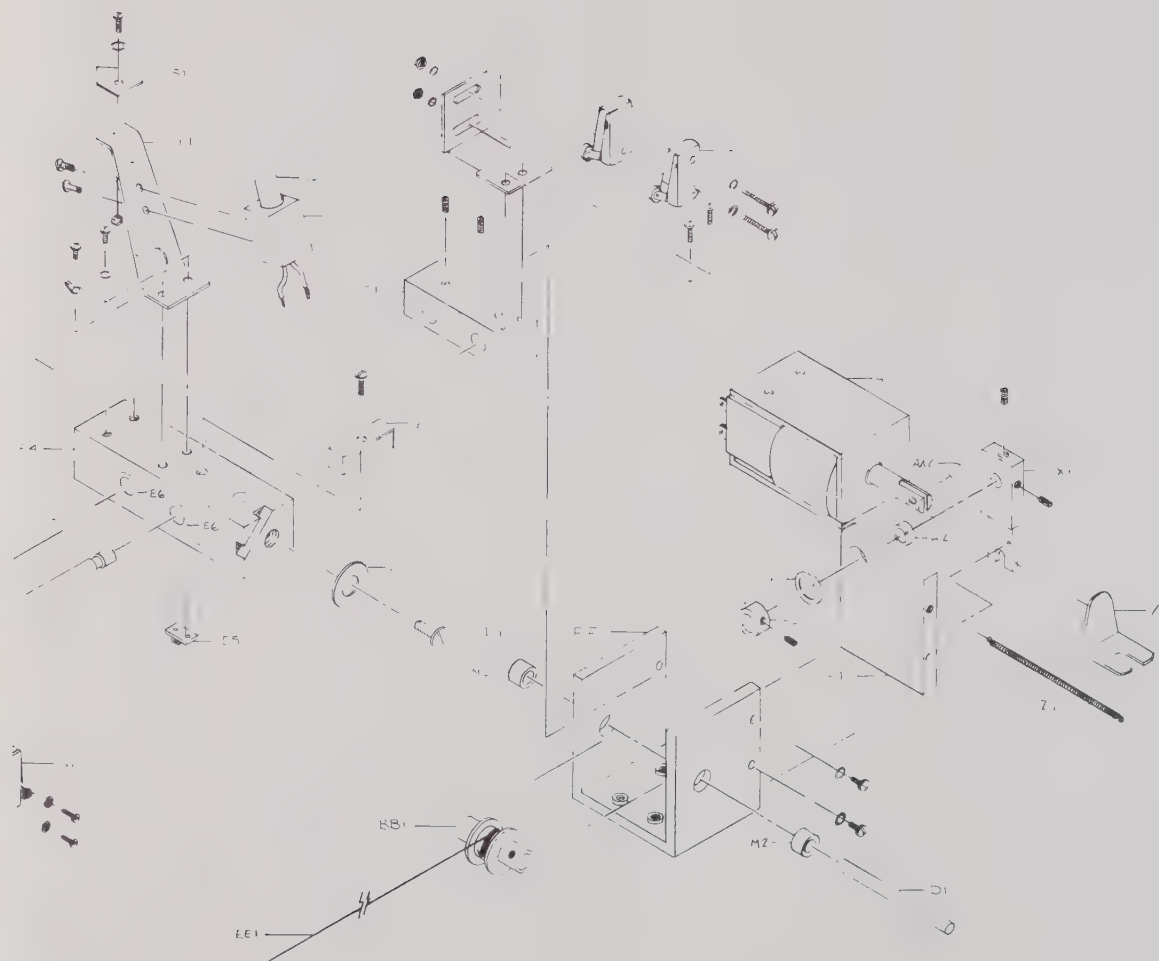
COMPOSITE DRUM CAGE ASSY				1900	
MAT.: <u> </u>		FINISH: <u> </u>		SCALE: 1:2	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL $\pm .005$		FRACTIONAL $\pm 1/64$		ANGULAR ± 30 MIN.	
ISSUE	CHANGE	DATE	APP.	KAY ELEMETRICS CORP	
				PINE BROOK, N. J.	
				DWN. BY <u>JEH</u>	DATE <u>10-20-85</u>
				APP BY <u>JEH</u>	DATE <u>10-21-85</u>
				SHEET <u>1</u>	OF <u>1</u>
				SIZE	DRAWING NO.
				C	15,675
					A

MODEL 7900
STYLUS GUIDE & SHAFT ASSY 7156-7600

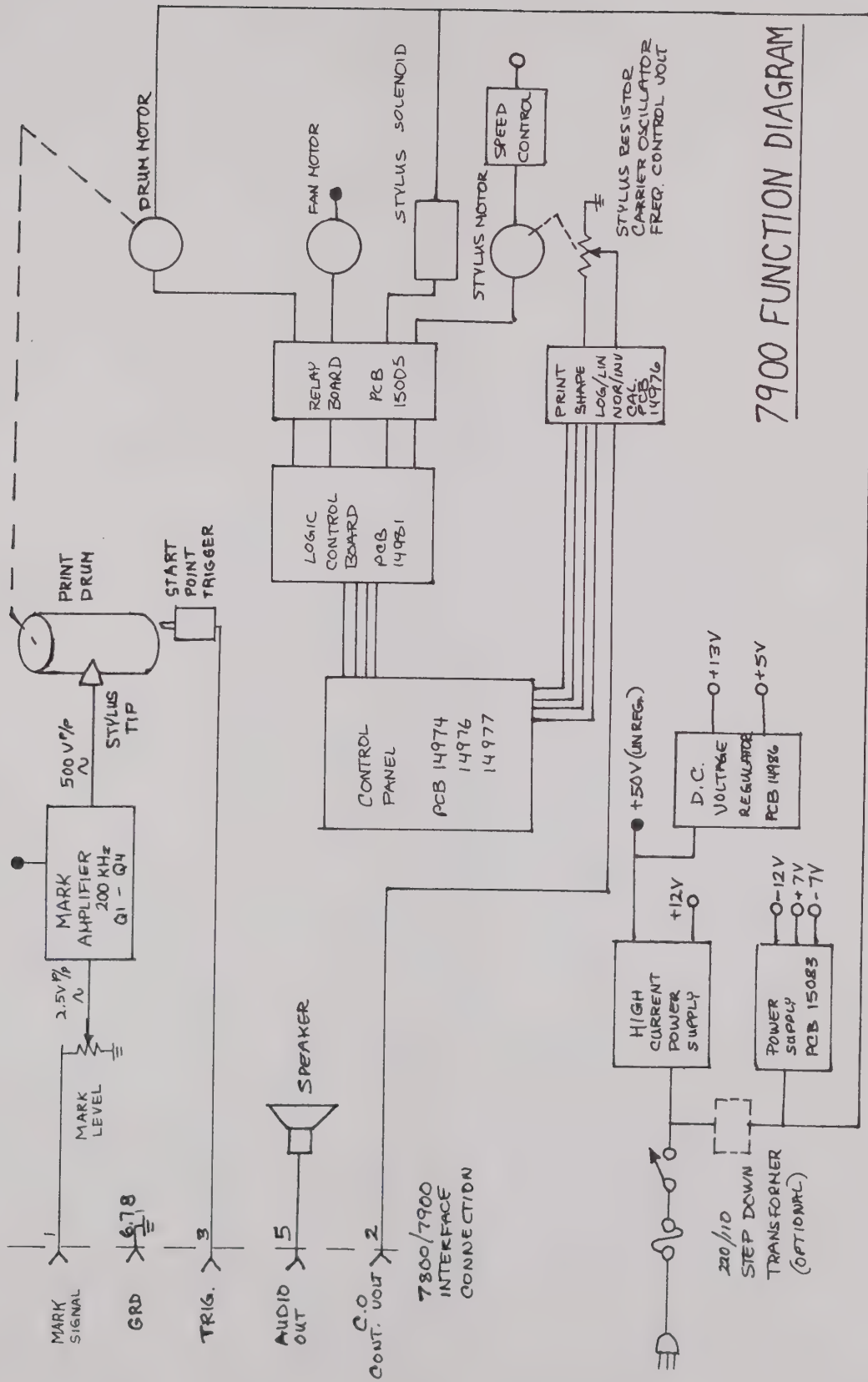
<u>Fig Ref #</u>	<u>Sub Assy</u>	<u>Pt #</u>	<u>Description</u>	<u>Qty/Assy</u>
A1		0562-0033	RING, "O", MINOR RUBBER	1
B1		7148-8400	PULLEY, STYLUS DRIVE	2
C1		7148-9400	STYLUS MOTOR MTG	1
D1		7148-9700	SHAFT, STYLUS PULLEY	2
E1	DUAL SHAFT ASSY	7148-8500	COUPLER, DUAL SHAFT	2
E2	"	7148-7000	SHAFT, STYLUS MAIN	1
E3	"	7148-7100	SHAFT, STYLUS SUPPORT	1
E4	"	7148-9000	BLOCK, STYLUS GUIDE	1
E5	"	7156-6200	CLAMP	1
E6	"	1410-0019	BUSHING, ACCURATE	2
F1		7154-5901	BRACKET, LEFT, MICRO-SWITCH	1
G1		3102-0007	SWITCH, MICRO # 111SM2	3
H1		7148-7400	BLOCK STYLUS GUIDE	2
J1		7148-7200	BOBBIN, CABLE	1
K1		2190-0039	WASHER NYLON, PLAS & MET	2
L1		7148-9100	COLLAR, LOCKING	2
M1	MTG BLOCK ASSY*	7148-7600	BLOCK CABLE MTG POT SIDE	1
M2	"	1410-0017	BEARING, OILITE FB-46-2	3
N1		2100-0226	POT, 10K OHM, DUNCAN #3256	1
P1	STYLUS TUBE & SPRNG ASSY*	1111-0296	NEEDLE TUBE	1
P2	"	7148-8700	SPRING	1
Q1		7151-9800	STYLUS WIRE	1
R1,R4	STYLUS HOLDER ASSY*	7153-0800	WIRE CLAMP/SCREW ASSY	1
R2	"	7151-5900	SPRING BAR	1
R3	"	7151-6000	STYLUS HOLDER BKT	1
S1		7150-9100	POINTER	1
T1		7148-8800	BRACKET, POINTER	1

<u>Fig Ref #</u>	<u>Sub Assy</u>	<u>Pt #</u>	<u>Description</u>	<u>Qty/Assy</u>
U1	PILOT LIGHT ASSY	7150-9200	HOLDER NEON LAMP	1
U2	"	1450-0032	PILOT LIGHT, LEDCO #100-2-RA 9X	
V1		7155-1100	BUSHING RETAINER	1
W1		7154-5900	BRACKET, RIGHT, MICROSWITCH	1
X1		7148-7800	ARM STYLUS POSITIONING	1
Y1		7154-2300	BRACKET, SOLENOID STOP	1
Z1		7150-9300	SPRING, STYLUS RETRACT	1
AA1,AA2		7154-1000	SOLENOID, GAURDIAN #11-C-120VAC (MODIFIED)	1
BB1		7148-7300	IDLER, CABLE	1
CC1		7148-0033	WASHER, NYLON, PLAS & MET	1
DD1		2200-0153	SCREW, 6-32 X 1/4" BH, NYLON	1
EE1		7151-7300	STYLUS DRIVE CABLE	1
FF1		7148-7500	BLOCK CABLE MTG	1

* All like prefixes are available only as sub assemblies.



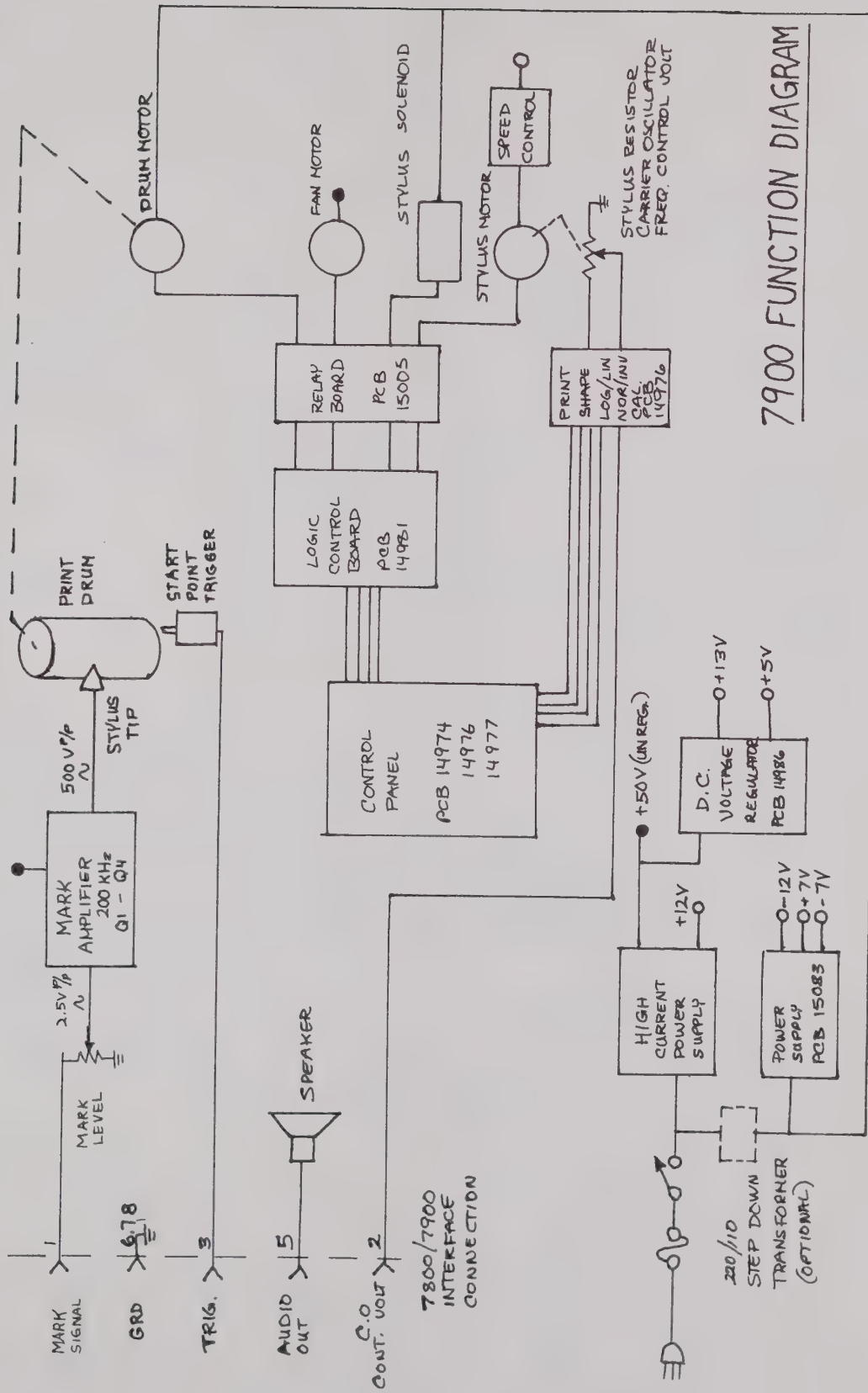
COMPOSITE STYLUS SLIDE + SHAFT ASSY				7900	
MAT:		FINISH:		SCALE: 1:1	
TOLERANCES UNLESS OTHERWISE SPECIFIED:					
DECIMAL $\pm .005$		FRACTIONAL $\pm 1/64$		ANGULAR ± 30 MIN.	
ISSUE	CHANGE	DATE	APP.	KAYELEMETRICS CORP PINE BROOK, N. J.	
				OWN. BY J.E.P. DATE 10/2/66	
				APP. BY J.E.P. DATE 11/4/66	
				CHECKED BY	
				SIZE DRAWING NO. 15676	
				A	



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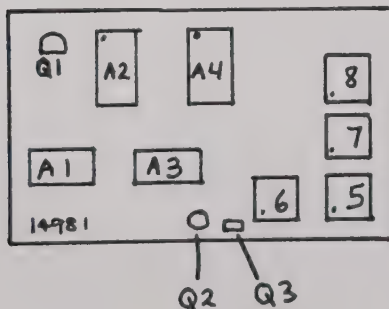


7900 LOGIC CIRCUIT
TROUBLE SHOOTING GUIDE

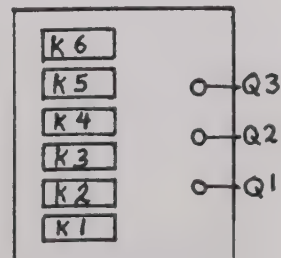
FUNCTION	PROBLEM SYMPTOMS		POSSIBLE DEFECTIVE COMPONENTS		
	NOT OPERATING	OPERATING	PCB 14981	PCB 15005	OTHER
PRINT	Drum motor Stylus Solenoid	Fan motor			Print door switch not depressed Fan motor
	Fan motor	Drum motor Stylus solenoid	Q3		Fan motor
	Stylus solenoid	Fan motor Drum motor	A1, A2, A6	Q2, K2	Stylus solenoid
	Drum motor	Fan motor Stylus solenoid		Q1, K1	Drum motor Nor/Exp switch
	Fan motor Drum motor	Stylus solenoid	A5, Q2		
	Stylus motor	Stylus solenoid		A2, K3, K4, K5, K6	Print speed switches. Fast/Slow Forward switches
	Stylus moves $\frac{1}{2}$ " from start position then resets				Lower limit switches
RESET	Automatic Upper Limit reset	Manual reset	Q1		Upper limit switch
	Automatic upper limit reset Manual reset	Manual fast and slow reverse switches	A2, A3, A4, A8, Q1	Q4, K5 K6	
STOP	Manual stop switch (Stylus return mode)	Frequency Marker brake	A2, A7		Stop switch
	Automatic lower limit Freq. Marker Brake		A2, A7, D1	Q3, K4	Lower limit switch

PARTS LOCATION

PCB 14981



PCB 15005



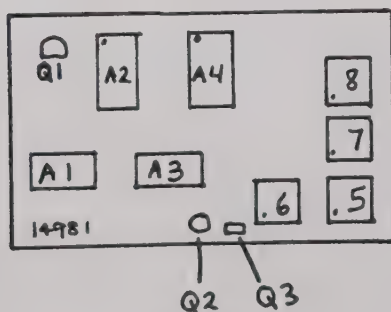
FRONT

7900 LOGIC CIRCUIT
TROUBLE SHOOTING GUIDE

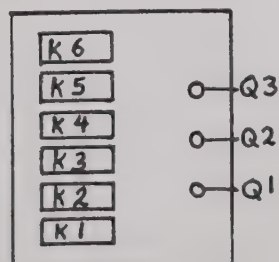
FUNCTION	PROBLEM SYMPTOMS		POSSIBLE DEFECTIVE COMPONENTS		
	NOT OPERATING	OPERATING	PCB 14981	PCB 15005	OTHER
PRINT	Drum motor Stylus Solenoid	Fan motor			Print door switch not depressed
	Fan motor	Drum motor Stylus solenoid	Q3		Fan motor
	Stylus solenoid	Fan motor Drum motor	A1, A2, A6	Q2, K2	Stylus solenoid
	Drum motor	Fan motor Stylus solenoid		Q1, K1	Drum motor Nor/Exp switch
	Fan motor Drum motor	Stylus solenoid	A5, Q2		
	Stylus motor	Stylus solenoid		A2, K3, K4, K5, K6	Print speed switches. Fast/Slow Forward
	Stylus moves $\frac{1}{4}$ " from start position then resets				switches Lower limit switches
RESET	Automatic Upper Limit reset	Manual reset	Q1		Upper limit switch
	Automatic upper limit reset Manual reset	Manual fast and slow reverse switches	A2, A3, A4, A8, Q1	Q4, K5 K6	
STOP	Manual stop switch (Stylus return mode)	Frequency Marker brake	A2, A7		Stop switch
	Automatic lower limit Freq. Marker Brake		A2, A7, D1	Q3, K4	Lower limit switch

PARTS LOCATION

PCB 14981



PCB 15005



FRONT

DIGITAL SONA-GRAPH® PRINTER
MODEL 7900 LOGIC DESCRIPTION

PRINT OPERATION

Positive pulse from PRINT switch sets Q output of A1A high initiating the following operations:

1. Positive voltage coupled through A5 saturating Q2 and Q3, switching on the fan motor.
2. Q1 (PCB 15005) is saturated energizing Relay K1, switching on the drum motor.
3. A2A is triggered producing an output pulse whose trailing edge (delay) sets Q(A1B) high. This positive voltage is coupled through A6 energizing K2 and K3 switching on the stylus solenoid and the stylus motor.

The stylus block, moving towards the left, allows the lower limit switch to release - putting the A input of A2B high and saturating Q1 pulling the collector low. This enables the RESET operation to function.

RESET OPERATION

1. Negative pulse from the RESET switch stylus or UPPER LIMIT switch resets A3A setting the Q(A3A) low and the Q (A3A) high.
2. The $\overline{Q}$ output resets A1A and A1B shutting off the fan motor, drum motor and the stylus solenoid and stylus motor.

DIGITAL SONA-GGRAPH® PRINTER
MODEL 7900 LOGIC DESCRIPTION

PRINT OPERATION

Positive pulse from PRINT switch sets Q output of A1A high initiating the following operations:

1. Positive voltage coupled through A5 saturating Q2 and Q3, switching on the fan motor.
2. Q1 (PCB 15005) is saturated energizing Relay K1, switching on the drum motor.
3. A2A is triggered producing an output pulse whose trailing edge (delay) sets Q(A1B) high. This positive voltage is coupled through A6 energizing K2 and K3 switching on the stylus solenoid and the stylus motor.

The stylus block, moving towards the left, allows the lower limit switch to release - putting the A input of A2B high and saturating Q1 pulling the collector low. This enables the RESET operation to function.

RESET OPERATION

1. Negative pulse from the RESET switch stylus or UPPER LIMIT switch resets A3A setting the Q(A3A) low and the Q (A3A) high.
2. The $\overline{Q}$ output resets A1A and A1B shutting off the fan motor, drum motor and the stylus solenoid and stylus motor.

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3. The $\overline{Q}$ output triggers A4A producing a positive pulse on the Q output. The training edge (delay) of this pulse sets A3B Q high. This positive voltage is coupled through A8 saturating Q4 switch relays K5 and K6 reversing the polarity of the stylus motor sending the stylus back toward the starting position. The return travel is stopped manually with the STOP switch or automatically when the LOWER LIMIT switch sets the $\overline{A}$ input of A2B low, setting $\overline{Q}$ low and Q high stopping the stylus motor with the stylus in the starting position.

FREQUENCY MARKER PRINT OPERATION

A positive pulse from the 7900 is fed through diode D1 saturating Q3 (PCB 15005) and energizing K4, grounding the stylus motor drive voltage and halting the stylus for the correct time duration to print the marker line.

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CROSS REFERENCE TABLE

Model or PCB Descrip./Assembly No./Module No./Schematics No.

7900 Mechanical Unit

Module or PCB Descrip.	Assembly No.	Reference	
		Module/Bd No.	Schematic No.
PCB Logic	7149-8193	14981	D15142-2/Sh1
PCB Voltage Regulator	7149-8693	14986	D15142-2/Sh2
PCB Relay	7150-0592	15005	D15142-2/Sh1
Mounting Plate	7150-1200		
Rear Bracket Assy.	7150-4000		
PCB Log. Amp. Bd. Assy.	7150-8392	15083	D15142-2/Sh2
Mark Amp. Assy.	7151-2100		
Cabinet Assy. Mech.	7151-4600		
Synch Motor Assy.	7151-4700		
Charcoal Filter Assy.	7151-4800		
Power Supply Assy.	7151-4900		
Stylus Slide Assy.	7151-6300		
Stylus Wire Assy.	7151-6400		
Stylus Container Assy.	7151-9700		
Front Panel Mech. Assy.	7151-9900		
Paper Drm & Shaft Assy.	7152-1300		
Fan Motor Filter	7153-2792	15327-2	D15142-2/Sh1
Final Assy.	7155-2200		
Top Panel Assy. Mech.	7155-6900		
PCB Wired Switch Panel	7157-4593	15745-3	D15142-2/Sh1
Motor Option, 230V, 50Hz	7159-5000		

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PARTS LIST INTRODUCTION

The following is a description of the different categories on the Kay Elemetrics Parts list (see example below).

- (A) PARENT ITEM NO. - The Assembly number.
- (B) DESCRIPTION - Description of the Assembly.
- (C) COMPONENT ITEM NO. - Part number of each component in the assembly.
- (D) DESCRIPTION - Description/Original Manufacturer of the component.
- (E) QUANTITY PER - The quantity of components per assembly. (Disregard the three zeros after the decimal point).
- (F) ITEM UM (UNIT OF MEASURE) - EA represents each. FT represents foot.
- (G) ITEM TYP (TYPE CODE) -
 - 1 - Assembly or Subassembly
 - 2 - Item manufactured by Kay Elemetrics
 - 3 - Raw Material
 - 4 - Item purchased by Kay Elemetrics

(A)	PARENT ITEM NO. 7149-7493	(B)	DESCRIPTION PCB WIRED SWITCH CONTROL ENGR DRAW						
	(C)	(D)		ENGINEERING DRAWING NUMBER	(E)	QUANTITY PER	(F)	ITEM UM	(G)
	LL CD	COMPONENT ITEM NO.	DESCRIPTION						TYP
	04	0101-0013	CAP, .1MFDX100V, CAPAR#CEM			3.000	EA		4
	04	0201-0098	IC,LM317H NATIONAL			2.000	EA		4
	05	0683-0013	RES, 270 OHM, CR25			2.000	EA		4
	02	7155-2100	BRACKET, HANDEL SUPPORT			2.000	EA		2
	03	7150-6200	BRACKET LINE CORD HOLDER DSG			1.000	EA		2
	05	8114-0001	WIRE, 24-7, BLACK, VERTEX			2.000	FT		4

KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7149-8193 TO-7149-8193

DATE: 8/25/85

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PARENT ITEM NO.	DESCRIPTION PCB WIRED LOGIC MECH	7800A&B	BATCH QTY	1
7149-8193	ENGR DRAW			

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0101-0009	CAP, .022MFDX100V CAPAR CEM		3.000	EA 4
04	0181-0002	CAP, 47MFDX16V, PAN#ECE-A1CK470		2.000	EA 4
06	0181-0005	CAP, 4.7MFDX35V, PAN#ECE-A1UK4R7		2.000	EA 4
05	0181-0008	CAP, 2.2MFDX50V, PAN#ECE-A1HK2R2		3.000	EA 4
06	0181-0010	CAP, 1.5MFDX63V, SPRAGUE 503D		1.000	EA 4
05	0201-0038	IC, SN7473N, TI OR SIG		2.000	EA 4
05	0201-0078	IC, DM74123, NSC		2.000	EA 4
04	0201-0097	IC, 4N38, MOT		2.000	EA 4
04	0201-0108	IC, 4N37, MOT		2.000	EA 4
05	0683-0012	RES, 220 OHM, CR25		4.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		6.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		5.000	EA 4
06	0683-0024	RES, 10K OHM, CR25		2.000	EA 4
05	0683-0036	RES, 680 OHM, CR25		1.000	EA 4
05	0683-0041	RES, 3300 OHM, CR25		4.000	EA 4
05	0683-0059	RES, 560 OHM, CR25		1.000	EA 4
04	0683-0074	RES, 51K OHM, CR25		3.000	EA 4
05	0683-0076	RES, 51 OHM CR25		1.000	EA 4
04	0684-0004	RES, 100 OHM, CR37		1.000	EA 4
05	0684-0074	RES, 4.7 OHM, CR37		1.000	EA 4
06	1111-0328	MTG PAD, THERMALLOY #7717-331N		1.000	EA 4
04	1210-0048	SOCKET, 6PIN, PCI #USD-306-T		4.000	EA 4
06	1210-0052	SOCKET, 14PIN, PCI #LSO-314-T		2.000	EA 4
05	1210-0053	SOCKET 16 PIN, PCI #LSO-316-T		2.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		1.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		4.000	EA 4
04	1854-0004	TRANS, 2N2270 RCA NPN-SI		1.000	EA 4
05	1854-0008	TRANS, PN3566 FSC NPN-SI		1.000	EA 4
05	1860-0029	TRANS, MJE220 MOT NPN-SI		1.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		1.000	EA 4
04	7149-8102	PCB DSG		1.000	EA 4

PARENT ITEM NO.	DESCRIPTION PCB WIRED, VOLT REG 7800A&B	BATCH QTY	1
7149-8693	ENGR DRAW		

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0101-0013	CAP, .1MFDX100V CAPAR		1.000	EA 4
05	0181-0008	CAP, 2.2MFDX50V, PAN#ECE-A1HK2R2		1.000	EA 4
05	0181-0014	CAP, 47MFDX35V, CAPAR #CLE-L		1.000	EA 4
05	0201-0079	IC, MC7805CT, MOT		1.000	EA 4
05	0201-0086	IC, LM317T, NSC		1.000	EA 4
05	0683-0043	RES, 12K OHM, CR25		1.000	EA 4
05	0683-0064	RES, 510 OHM, CR25		1.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		1.000	EA 4
04	7149-8602	PCB DSG		1.000	EA 4

PARENT ITEM NO.	DESCRIPTION PCB WIRED RELAY MECH 7800A&B	BATCH QTY	1
7150-0592	ENGR DRAW		

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	0490-0019	RELAY, AROMAT HA1-DC12V		6.000	EA 4
05	0684-0074	RES, 4.7 OHM, CR37		1.000	EA 4
06	1111-0328	MTG PAD, THERMALLOY #7717-331N		4.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		2.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		2.000	EA 4
05	1854-0008	TRANS, PN3566 FSC NPN-SI		4.000	EA 4
06	1901-0015	DIODE, 1N4446, FSC		4.000	EA 4
04	1902-0038	DIODE, 1N4753 MOT 36V ZENER		2.000	EA 4
04	7150-0502	PCB DSG		1.000	EA 4

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KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7150-1200 TO-7150-1200DATE 4/12/85
OPER CACPARENT ITEM NO.
7150-1200DESCRIPTION MOUNTING PLATE ASSY 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
03	0161-0021	CAP, 4MFDX330V, GE 21L3004		1.000	EA 4
03	0201-0099	IC, TL172C, TI (HALL EFFECT)		1.000	EA 4
03	0562-0002	GROMMET, MINOR AN931-3-5, 5/16"		1.000	EA 4
03	0562-0033	"O" RING, MINOR O-1111		1.000	EA 4
04	0562-0034	GROMMET, MINOR Z4105		2.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1.000	EA 4
04	1111-0016	BRACKET, BUDD #36728		2.000	EA 4
03	1111-0208	BRACKET, CAP, GE#K9827065P21		1.000	EA 4
03	1111-0294	BAIL, BUCKEYE STAMP#MP-4000B-10		2.000	EA 4
03	1111-0295	BELT, 3/16"X12"X.005, MYLAR	A15993	2.000	EA 4
03	1111-0323	GROMMET, NYLATCH #HN4G-43-2		4.000	EA 4
03	1111-0324	PLUNGER, NYLATCH #HN4P-43-4-2		4.000	EA 4
03	1111-0346	CAP, THUMB SCREW, BLACK		2.000	EA 4
04	1250-0184	CONN, MOLEX 03-06-1032, HSG 3PIN		1.000	EA 4
03	1252-0031	CLAMP, STRAPPER, RICHCO SC-192		1.000	EA 4
03	1252-0032	CLAMP, FASTEN, HOSE, RICHCO HCF-5		1.000	EA 4
03	1361-0010	MOTOR, GEAR, PITTMAN #GM9413-4		1.000	EA 4
03	1361-0017	MOTOR, PITTMAN #8312		1.000	EA 4
03	1362-0013	FAN BLADE, 2-3/4"LHB, 156-8		1.000	EA 4
03	1410-0003	BUSHING, OILITE FB46-2		3.000	EA 4
03	1410-0014	BEARING, SWING 7Y55PSS3725		2.000	EA 4
03	1450-0017	LAMP HOLDER, DIALCO S15-0005		1.000	EA 4
03	1450-0018	LAMP, RED LED, DIALCO 521-9200		1.000	EA 4
03	2100-0226	POT, 10K, 3T, DUNCAN 3256		1.000	EA 4
03	2200-0171	SCREW, 6-32 X 3/8" ALLEN CAP		2.000	EA 4
06	3104-0031	SWITCH, CENTRALAB #MP1		1.000	EA 4
03	7147-5000	TUBE HEAT SHRINK		1.000	EA 2
03	7148-7200	BOBBIN, CABLE DSG		1.000	EA 2
03	7148-7300	IDLER, CABLE DSG		1.000	EA 2
03	7148-7400	BLOCK STYLUS GUIDE DSG		2.000	EA 2
03	7148-7500	BLOCK CABLE MTG 7800A&B		1.000	EA 2
03	7148-7600	BLOCK CABLE MTG POT SIDE DSG		1.000	EA 2
03	7148-8000	BLOCK, PCB DSG		1.000	EA 2
03	7148-8400	PULLEY STYLUS DRIVE DSG		2.000	EA 2
03	7148-9200	STANDOFF SWITCH PANEL DSG		4.000	EA 2
03	7148-9400	STYLUS MOTOR MT DSG		1.000	EA 2
03	7148-9700	SHAFT, STYLUS PULLEY DSG		2.000	EA 2
03	7149-0000	PLATE, MTG DSG		1.000	EA 2
03	7150-5900	COVER, TRAP DOOR		1.000	EA 2
03	7151-0500	BRACKET, FRONT PANEL DSG		2.000	EA 2
03	7151-0700	HOUSING PARTICLE FILTER DSG		1.000	EA 2
04	7151-0800	COWLING EXHAUST DSG		1.000	EA 2
03	7151-1000	SCREEN VENT DSG		1.000	EA 2
04	7151-5600	BRACKET, FAN HOUSING DSG		1.000	EA 2
03	7151-5700	BARREL, EXHAUST FAN DSG		1.000	EA 2
03	7151-6200	CLAMP		1.000	EA 2
03	7151-7300	STYLUS DRIVE CABLE		1.000	EA 2
03	7152-1100	PARTICLE FILTER (1111-0059) DSG		2.000	EA 2
03	7152-1300	SCREEN, FILTER, DSG (1111-0325)		1.000	EA 2
03	7152-4700	BRACKET, CUT OFF SWITCH		1.000	EA 2
03	7152-6100	BRACKET, SHORT POINT DSG		1.000	EA 2
03	7153-2792	PCB WIRED MOTOR FILTER 7800A&B		1.000	EA 1
03	7154-1000	MODIFIED SOLENOID DSG		1.000	EA 2
03	7154-2300	BRACKET, SOLENOID STOP DSG		1.000	EA 2
03	7155-2600	FAN MOTOR BRACKET DSG		1.000	EA 2
03	7155-3300	SLIDE, MOTOR MECH SECTION 7800		1.000	EA 2
03	7155-3400	STOP, MOTOR, MECH SECTION 7800		1.000	EA 2

PARENT ITEM NO.
7150-4000DESCRIPTION REAR BRACKET ASSY MECH 7800A&B
ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0181-0007	CAP, 22MFDX35V, FAN#ECE-A1VK220		1.000	EA 4
05	0341-0009	STANDOFF, USECO #1471B-7-11		1.000	EA 4
06	0683-0014	RES, 330 OHM, CR25		1.000	EA 4
04	1250-0177	CONN, TRW DE-9ST, SOCKET 9-PIN		1.000	EA 4
04	1250-0180	CONN LATCHING BLOCK, TRW #6D-LB		2.000	EA 4
04	1252-0006	STRAIN RELIEF, HEYMAN SR5-P4		1.000	EA 4
04	1400-0003	FUSEHOLDER, LITTLE FUSE 348B11		1.000	EA 4
04	1400-0004	CAP, HOLDER, RED, LITTLE FUSE 348001		1.000	EA 4
05	2110-0018	FUSE, 2 AMP, SLO BLO		1.000	EA 4
03	7150-6200	BRACKET LINE CORD HOLDER DSG		1.000	EA 2
04	8120-0002	LINE CORD, BELDEN #17237B 6FT		1.000	EA 4

PARENT ITEM NO. DESCRIPTION PCB WIRED LOG AMP 7800A&B
7150-8392 ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM	TY
05	0141-0026	CAP,300PF,ELMENDO #DM15-301		1.000	EA	4
05	0181-0009	CAP, 1MFDX63V, SPRAGUE 503D		1.000	EA	4
05	0181-0013	CAP, 10MFDX35V,CAPAR #CLE-L		2.000	EA	4
04	0181-0018	CAP, 330MFDX25V, CAPAR #CLE-L		1.000	EA	4
05	0201-0082	IC, NE5554N, SIG		1.000	EA	4
05	0201-0083	IC, LM324, NSC		1.000	EA	4
05	0201-0102	IC, TL441CN, TI		1.000	EA	4
04	0201-0103	IC, MC7912CT, MOT		1.000	EA	4
04	0667-0053	RES,910 OHM,2%,C4, RL07S911G		1.000	EA	4
06	0683-0016	RES, 1K OHM, CR25		2.000	EA	4
06	0683-0019	RES, 2200 OHM, CR25		4.000	EA	4
06	0683-0021	RES, 4700 OHM, CR25		1.000	EA	4
06	0683-0024	RES, 10K OHM, CR25		3.000	EA	4
05	0683-0039	RES, 2K OHM, CR25		2.000	EA	4
05	0683-0047	RES, 100K OHM, CR25		2.000	EA	4
05	0683-0048	RES, 180K OHM, CR25		1.000	EA	4
05	0683-0049	RES, 220K OHM, CR25		1.000	EA	4
04	0683-0053	RES, 4.7 MEG OHM, CR25		1.000	EA	4
05	0683-0054	RES, 39K OHM, CR25		2.000	EA	4
05	0683-0069	RES, 750 OHM, CR25		1.000	EA	4
05	0683-0070	RES, 24K OHM, CR25		1.000	EA	4
04	0684-0046	RES, 200K OHM, CR37		2.000	EA	4
06	1210-0052	SOCKET,14PIN,PCI #LSO-314-T		2.000	EA	4
05	1210-0053	SOCKET 16 PIN,PCI #LSO-316-T		1.000	EA	4
06	1230-0001	HEADER,4CKT, AMP 640456-4		3.000	EA	4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		1.000	EA	4
06	1901-0015	DIODE, 1N4446, FSC		1.000	EA	4
04	1908-0007	RECTIFIER, F6, (DIODE)		2.000	EA	4
05	2100-0011	POT,100 OHM,BECKMAN 72FMR100		1.000	EA	4
05	2100-0057	POT,1K, BECKMAN 72FMR1K		1.000	EA	4
05	2100-0080	POT,5K, BECKMAN 72FMR5K		1.000	EA	4
05	2100-0112	POT,20K, BECKMAN 72FMR20K		1.000	EA	4
05	2100-0127	POT,50K, BECKMAN 72FMR50K		1.000	EA	4
04	3101-0043	SWITCH,SWITCHCRAFT #EPS2-PC1		1.000	EA	4
04	7150-8302	PCB DSG		1.000	EA	4
04	9125-0007	TRANSFR,SIGNAL #LP24-250-B9		1.000	EA	4

PARENT ITEM NO. DESCRIPTION MARK AMP ASSY 7800A&B
7151-2100 ENGR DRAW

BATCH QTY 1

LL CD	COMPONENT ITEM NO	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM	TY
05	0141-0024	CAP,200PF,ELMENDO #DM15-201		1.000	EA	4
04	0150-0008	CAP, .01MFD X 100V		1.000	EA	4
04	0180-0044	CAP, 25MFD X 100V SPR TE1410		1.000	EA	4
05	0181-0008	CAP,2.2MFDX50V,PAN#ECE-A1HK2R2		1.000	EA	4
05	0181-0013	CAP, 10MFDX35V,CAPAR #CLE-L		2.000	EA	4
04	0341-0001	TERM POST,ELEC MOLD#2752-5-1		1.000	EA	4
04	0562-0004	GROMMET,MINOR AN931-4-7, 7/16" 4162		3.000	EA	4
04	0562-0009	GROMMET,MINOR 21/64		2.000	EA	4
04	0662-0009	RES,1.5 OHM,2W,IRC TYPE BWH		2.000	EA	4
04	0684-0004	RES, 100 OHM, CR37		1.000	EA	4
04	0684-0005	RES, 220 OHM, CR37		1.000	EA	4
04	0684-0014	RES, 820 OHM, CR37		1.000	EA	4
04	0684-0019	RES, 2200 OHM, CR37		1.000	EA	4
04	0684-0025	RES, 5600 OHM, CR37		1.000	EA	4
04	0684-0032	RES, 18K OHM, CR37		1.000	EA	4
04	0684-0067	RES, 56 OHM, CR37		2.000	EA	4
04	0684-0073	RES, 33 OHM, CR37		1.000	EA	4
04	0693-0023	0912-0001 OHM,AB 2W, 10X		2.000	EA	4
04	1111-0170	INSULATOR,BERG#7403-09FR-22		2.000	EA	4
04	1111-0384	INSULATOR,MICA, KA22A		4.000	EA	4
04	1854-0004	TRANS, 2N2270 RCA NPN-SI		1.000	EA	4
04	1854-0011	TRANS, FN3859 NPN-SI		1.000	EA	4
04	1860-0017	TRANS, 2N6247 RCA		2.000	EA	4
06	1901-0015	DIODE, 1N4446, FSC		10.000	EA	4
04	2190-0024	WASHER,#10,NYLON,H.HSMITH#2666		1.000	EA	4
04	2190-0040	WASHER,P&M# SWS419 NYL SHOULD		4.000	EA	4
04	2200-0154	SCREW,6-32 X 1-1/4" NYLON RHMS		1.000	EA	4
04	2200-0179	SCREW, 8-32 X 1-1/4" RH NYLON		1.000	EA	4
04	2420-0023	NUT,6-32,HEX,NYLON,		2.000	EA	4
04	2420-0026	NUT,8-32 NYLON		1.000	EA	4
04	5045-0015	HEAT SINK, 25AT WAKEFIELD		1.000	EA	4
04	7024-0801	DISC, TORROIDAL COIL RUMMEL		2.000	EA	4
04	7042-1500	TERMINAL BT, AMERICAN LAVA		1.000	EA	4
04	7042-1600	TERMINAL 16T,AMERICAN LAVA		1.000	EA	4
04	7042-9700	TERMINAL PLATED FROM7042-9777		24.000	EA	2
04	7042-9801	STUD FOR TERM BD RC LEWIS		4.000	EA	4
04	7044-0000	GROUNDING STRAP SEE 7044-0080		4.000	EA	4
04	7049-9100	WASHER, RUBBER		1.000	EA	4
04	7086-2700	COVER COIL SEE 7086-2777		1.000	EA	2
04	7148-6701	BOX, MARK AMP DSG		1.000	EA	2
04	7148-6702	COVER MARK AMP DSG		1.000	EA	2
04	7148-8300	BRACKET, MARK AMP DSG		2.000	EA	2
04	9143-0029	CUP CORE, IG, F1152-1-TC9-1000		1.000	EA	4
04	9143-0030	BOBBIN, B481-2 IN GEN		1.000	EA	4
04	9150-0013	COIL,TOROIDAL APW 4298	8573	1.000	EA	4

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KAY ELEMETRICS

SINGLE LEVEL BILL
FROM-7151-4600 TO-7151-4600DATE 4/08/85
OPER CAC

PARENT ITEM NO.	DESCRIPTION	CABINET ASSY MECH SECT 7800A&B	BATCH QTY	1	
7151-4600	ENGR DRAW				
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
03	0583-0024	HANDLE, SOUTHCO 25-13-102-13		1,000	EA 4
03	1111-0346	CAP, THUMB SCREW, BLACK		2,000	EA 4
03	1252-0010	CLAMP, GC ELECTK # 11-078-C		2,000	EA 4
03	2200-0171	SCREW, 6-32 X 3/8" ALLEN CAP		2,000	EA 4
03	7148-6600	BEZEL, SWITCH PANEL DSG		1,000	EA 2
03	7150-8800	COVER TOP MECH DSG		1,000	EA 2
03	7151-0900	FRAME ASSY MECH SECT 7800A&B		1,000	EA 2
03	7151-1200	SCREEN REAR EXHAUST DSG		1,000	EA 2
03	7151-3300	PLATE LUCITE CLEAR DSG		1,000	EA 4
03	7151-5000	DRUM COVER ASSY PAINTED DSG		1,000	EA 2

PARENT ITEM NO.	DESCRIPTION	SYNCH MOTOR ASSY 7800A&B	BATCH QTY	1	
7151-4700	ENGR DRAW				
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	1250-0121	CONN, MOLEX 02-06-2103, MALE, TRM		6,000	EA 4
04	1250-0173	CONN, MOLEX 03-06-2061, HSG 6PIN		1,000	EA 4
04	1361-0011	MOTOR, BODINE #NCH-13, 900/1800		1,000	EA 4
04	7148-6801	PULLEY 60HZ DSG		1,000	EA 2
04	7148-9300	STANDOFF MOTOR MT DSG		1,000	EA 2

PARENT ITEM NO.	DESCRIPTION	CHARCOAL FILTER ASSY 7800A&B	BATCH QTY	1	
7151-4800	ENGR DRAW				
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	1362-0010	CARBON FILTER, UCAR-80 (5"X15")	15315	1,000	EA 4
03	7151-0000	TUBING FILTER DSG		1,000	EA 2
05	7151-0100	CAP, FILTER, DSG (SEE 1111-0184)		2,000	EA 2
05	7151-5200	SCREEN, ENDCAP DSG (1111-0325)		2,000	EA 2

PARENT ITEM NO.	DESCRIPTION	POWER SUPPLY ASSY MECH 7800A&B	BATCH QTY	1	
7151-4900	ENGR DRAW				
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	0360-0014	TERM STRIP, VERNITRON #76006		1,000	EA 4
04	0360-0015	TERM STRIP, VERNITRON #CA036		1,000	EA 4
04	0360-0017	MARKER STRIP, BEAU#VF-76006-201		1,000	EA 4
04	7148-6500	PLATE PCB MTG DSG		1,000	EA 2
04	7148-7700	BRACKET PWR SPLY MTG DSG		3,000	EA 2
04	7150-8700	POWER SUPPLY MOD SEE 1111-0267		1,000	EA 2

PARENT ITEM NO.	DESCRIPTION	STYLUS SLIDE ASSY 7800A&B	BATCH QTY	1	
7151-6300	ENGR DRAW				
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	1450-0032	PILOT LIGHT, LEDCO 100-2-RA9X		1,000	EA 4
04	2190-0005	WASHER, #4 FLAT (SEE 2L90-0042)		1,000	EA 4
04	2190-0033	WASHER, F&M# W6253 NYLON		1,000	EA 4
04	2190-0039	WASHER, F&M# FW250-032 NYLON		2,000	EA 4
04	2200-0040	SCREW, 4-40 X 3/16" PHIL PANHD		1,000	EA 4
04	2200-0153	SCREW, 6-32 X 1/4" BH NYLON		1,000	EA 4
04	3102-0007	SWITCH, MICRO #111SM2		3,000	EA 4
04	7148-7000	SHAFT, STYLUS SEE 1111-0244		1,000	EA 2
04	7148-7100	SHAFT STYLUS SUP SEE 1111-0292		1,000	EA 2
04	7148-7800	ARM STYLUS POSITIONING DSG		1,000	EA 2
04	7148-8500	COUPLER, DUAL SHAFT DSG		2,000	EA 2
04	7148-8800	BRACKET, POINTER DSG		1,000	EA 2
04	7148-9001	STYLUS SLIDE BLOCK ASSY, 7800 B14890-1A		1,000	EA 2
04	7148-9100	COLLAR, LOCKING		2,000	EA 2
04	7150-9100	POINTER DSG		1,000	EA 2
04	7150-9200	HOLDER NEON LAMP DSG		1,000	EA 2
04	7150-9300	SPRING DSG DAYON		1,000	EA 4
04	7151-6400	STYLUS WIRE ASSY 7800A&B		1,000	EA 1
04	7154-5900	BRACKET, RIGHT, MICRO SWITCH DSG		1,000	EA 2
04	7154-5901	BRACKET, LEFT, MICRO SWITCH DSG		1,000	EA 2

PARENT ITEM NO. 7151-6400	DESCRIPTION STYLUS WIRE ASSY 7800A&B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	7153-0800	WIRE CLAMP & SCREW ASSY		1.000	EA 1
05	7153-0900	NEEDLE SPRING ASSY		1.000	EA 1
05	7153-8300	STYLUS HOLDER ASSY		1.000	EA 2
05	7160-6400	STYLUS NEEDLE ADJUSTMENT BLOCK		1.000	EA 2

PARENT ITEM NO. 7151-9900	DESCRIPTION FRONT PANEL ASSY MECH 7800A&B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0270-0003	SPEAKER, REALISTIC RS #40-1333C		1.000	EA 4
04	1250-0173	CONN, MOLEX 03-06-2061, HSG 6PIN		2.000	EA 4
04	1250-0175	CONN, MOLEX 02-06-1132, FEM. TERM		3.000	EA 4
04	1250-0176	CONN, MOLEX 02-06-2132, MALE TRM		3.000	EA 4
04	1250-0185	CONN, MOLEX 03-06-1061, HSG 6PIN		2.000	EA 4
03	1252-0016	CLAMP, 1/8", HH SMITH 8910		1.000	EA 4
03	1252-0029	CLAMP, KWIK KLIP, RICHCO KCU-8		1.000	EA 4
03	1430-0004	FASTENER, NYLATCH HRN6-3-2		2.000	EA 4
03	1430-0006	FASTENER, HARTWELL HRH6-2		2.000	EA 4
04	2100-0094	POT, 10K, AB 70A4ND48L103U		1.000	EA 4
05	2110-0018	FUSE, 2 AMP, SLO BLO		1.000	EA 4
03	7118-1602	SPACER, POT MTG. 5/8"		1.000	EA 2
03	7151-0603	FRONT PANEL MECH DSG		1.000	EA 2
03	7153-8600	TUBE, EMERY PAPER STORAGE DSG		1.000	EA 2
03	7155-6400	CROCUS CLOTH DSG		1.000	EA 2

PARENT ITEM NO. 7152-1300	DESCRIPTION PAPER DRUM & SHAFT ASSY 7800A&B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
04	1111-0253	RING, RETAIN, STOCK DR#9Q27-50		2.000	EA 4
04	1111-0284	DOWEL PIN, STOCK DR #9X31-0424		2.000	EA 4
04	1111-0287	SPRING, ASSOC#C0180-029-03BOM		2.000	EA 4
04	1410-0015	BEARING, DRUM ALLIED 2064		2.000	EA 4
04	1410-0016	BEARING STOCK DR 7B4-P092		4.000	EA 4
04	2200-0165	SCREW, 10-32 1/2" SET, BRASS		2.000	EA 4
04	7051-6700	RETAINER, LG, 254T, NAT'L MOLDING		2.000	EA 4
04	7090-0600	TRIF PIN MAG SEE 7090-0677		1.000	EA 4
04	7148-5800	RING, LEFT PAPER RETAIN DSG		1.000	EA 2
04	7148-5900	RING, RIGHT PAPER RETAIN DSG		1.000	EA 2
04	7148-6300	DRUM MT DSG		2.000	EA 2
04	7148-8100	BUTTON PAPER LOCK DSG		2.000	EA 2
04	7148-8200	HINGE, PAPER LOCK DSG		2.000	EA 2
04	7148-9900	PIN, SWITCH LOCK SPRING DSG		2.000	EA 2
04	7151-5300	PAPER LOCK PAD SEE 1111-0285		2.000	EA 2
04	7152-4800	ZERO CLIP		1.000	EA 2
04	7155-7600	BLOCK, DRUM MAGNET MOUNTING		1.000	EA 2
04	7156-9400	DRUM & PULLEY ASSY, 7800B MD6		1.000	EA 1

PARENT ITEM NO. 7153-2792	DESCRIPTION PCB WIRED MOTOR FILTER 7800A&B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0102-0002	CAP, .47MFDX100V CAPAC CRM		1.000	EA 4
05	0181-0015	CAP, 100MFDX35V, CAPAC #CLE-L		2.000	EA 4
04	0664-0006	RES, 50 OHM, 8W, OHMITE 1514		1.000	EA 4
04	0684-0002	RES, 10 OHM, CR37		2.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		2.000	EA 4
04	7153-2702	PCB DSG		1.000	EA 4
05	9100-0017	CHOKE, 100 UH AIRCO 1315012J		2.000	EA 4

PARENT ITEM NO. 7155-2200	DESCRIPTION FINAL ASSY PRINTER 7800A&B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0562-0027	BUMPER FEET, 3M SJ-5023,		2.000	EA 4
03	7149-8193	PCB WIRED LOGIC MECH 7800A&B		1.000	EA 1
03	7149-8693	PCB WIRED, VOLT REG 7800A&B		1.000	EA 1
03	7150-0592	PCB WIRED RELAY MECH 7800A&B		1.000	EA 1
02	7150-1200	MOUNTING PLATE ASSY 7800A&B		1.000	EA 1
02	7150-4000	REAR BRACKET ASSY MECH 7800A&B		1.000	EA 1
03	7150-8392	PCB WIRED LOG AMP 7800A&B		1.000	EA 1

PARENT ITEM NO. 7155-2200	DESCRIPTION FINAL ASSY PRINTER 7800A&B ENGR DRAW	BATCH QTY
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
03	7151-2100	MARK AMP ASSY 7800A&B		1.000	EA 1
02	7151-4600	CABINET ASSY MECH SECT 7800A&B		1.000	EA 1
03	7151-4700	SYNCH MOTOR ASSY 7800A&B		1.000	EA 1
02	7151-4800	CHARCOAL FILTER ASSY 7800A&B		1.000	EA 1
03	7151-4900	POWER SUPPLY ASSY MECH 7800A&B		1.000	EA 1
03	7151-6300	STYLUS SLIDE ASSY 7800A&B		1.000	EA 1
02	7151-9700	STYLUS CONTAINER ASSY 7800A&B		1.000	EA 1
02	7151-9900	FRONT PANEL ASSY MECH 7800A&B		1.000	EA 1
02	7152-1300	PAPER DRUM & SHAFT ASSY 7800A&B		1.000	EA 1
02	7154-9100	CABLE ASSY GROUP MECH 7800A&B		1.000	EA 1
02	7155-6900	PANEL ASSY MECH SECTION 7800B		1.000	EA 1

PARENT ITEM NO. 7155-6900	DESCRIPTION PANEL ASSY MECH SECTION 7800B ENGR DRAW	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
05	0371-0006	KNOB, 10MM, 26-103-11, LT GRAY		2.000	EA 4
05	0371-0007	CAP, W/LINE, 10MM, 30-10-111		2.000	EA 4
05	0371-0008	ARROW, 10MM, 40-101-03, BLACK		2.000	EA 4
03	0372-0001	BUTTON, GRAY, B309-GY CRL		15.000	EA 4
03	0372-0007	BUTTON, BLACK, C-22 ALCD		1.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		1.000	EA 4
04	1111-0190	SPACER, 3/4" KEYSTONE #1450D		6.000	EA 4
03	3104-0039	SWITCH, COMP #881K21810T02A02		1.000	EA 4
03	7149-9103	PANEL MECH SECTION DSG		1.000	EA 2
05	7157-4593	PCB WIRED, SWITCH 7800 MD9 & UP		1.000	EA 1

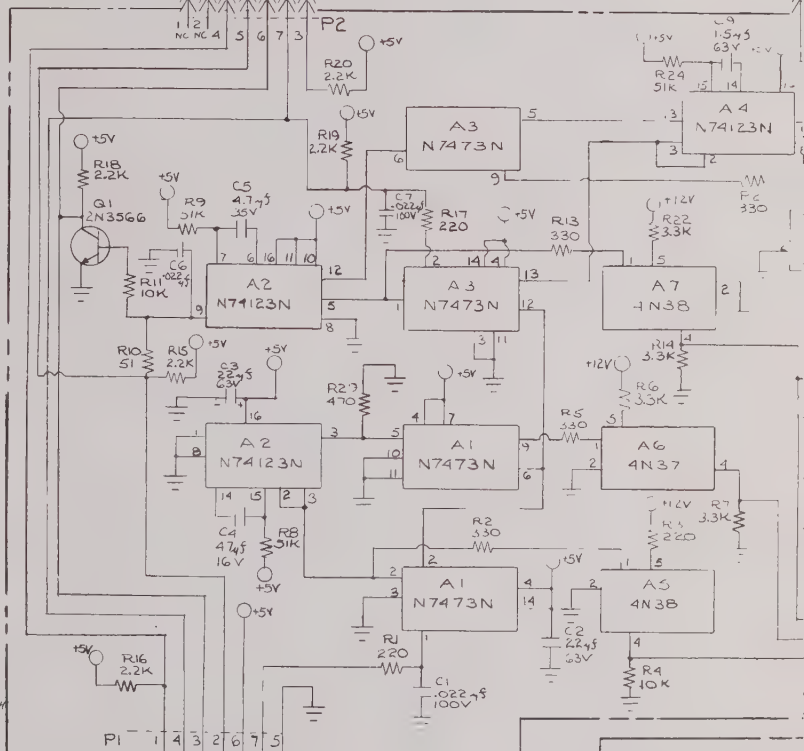
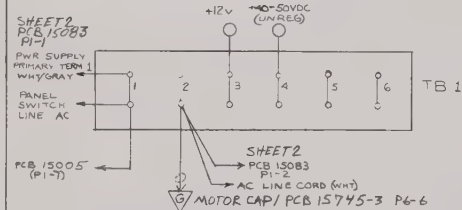
PARENT ITEM NO. 7157-4593	DESCRIPTION PCB WIRED, SWITCH 7800 MD9 & UP ENGR DRAW	BATCH QTY 1
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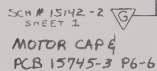
LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
06	0101-0013	CAP, .1MFDX100V CAPAR		5.000	EA 4
06	0201-0098	IC, LM317H, NSC		3.000	EA 4
06	0644-0020	RES, 150 OHM, BW, OHMITE 1518		1.000	EA 4
06	0683-0013	RES, 270 OHM, CR25		3.000	EA 4
06	0683-0015	RES, 470 OHM, CR25		2.000	EA 4
06	0683-0016	RES, 1K OHM, CR25		3.000	EA 4
06	0683-0017	RES, 1200 OHM, CR25		1.000	EA 4
06	0683-0019	RES, 2200 OHM, CR25		1.000	EA 4
06	0683-0021	RES, 4700 OHM, CR25		1.000	EA 4
06	0683-0022	RES, 5600 OHM, CR25		1.000	EA 4
06	0684-0011	RES, 620 OHM, CR37		1.000	EA 4
06	0685-0045	RES, 360 OHM, ITOKA		1.000	EA 4
06	1111-0328	MTG PAD, THERMALLOY #7717-331N		3.000	EA 4
06	1230-0001	HEADER, 4CKT, AMP 640456-4		2.000	EA 4
06	1230-0002	HEADER, 7CKT, AMP 640456-7		5.000	EA 4
06	2100-0056	POT, 1K, BECKMAN 72XWR1K		6.000	EA 4
06	2100-0239	POT, 2K, BECKMAN 72XWR2K		2.000	EA 4
06	3104-0011	SWITCH, CENTRALAB #MP15		1.000	EA 4
06	3104-0012	SWITCH, CENTRALAB #MP15		1.000	EA 4
06	3104-0024	SWITCH, CENTRALAB #MP15		1.000	EA 4
06	3104-0031	SWITCH, CENTRALAB #MP1		1.000	EA 4
06	3104-0044	SWITCH, CENTRALAB MPS 1-STA		2.000	EA 4
06	3104-0048	SWITCH, PUSH #MPS-203N-PC, ALCD		1.000	EA 4
06	5045-0003	HEAT SINK, NF-204CB, WAKEFIELD		3.000	EA 4
06	7157-4503	PCB, 7800 MD9 & UP		1.000	EA 4
06	7157-5400	POT, MODIFIED 10K, (2101-0005)		2.000	EA -

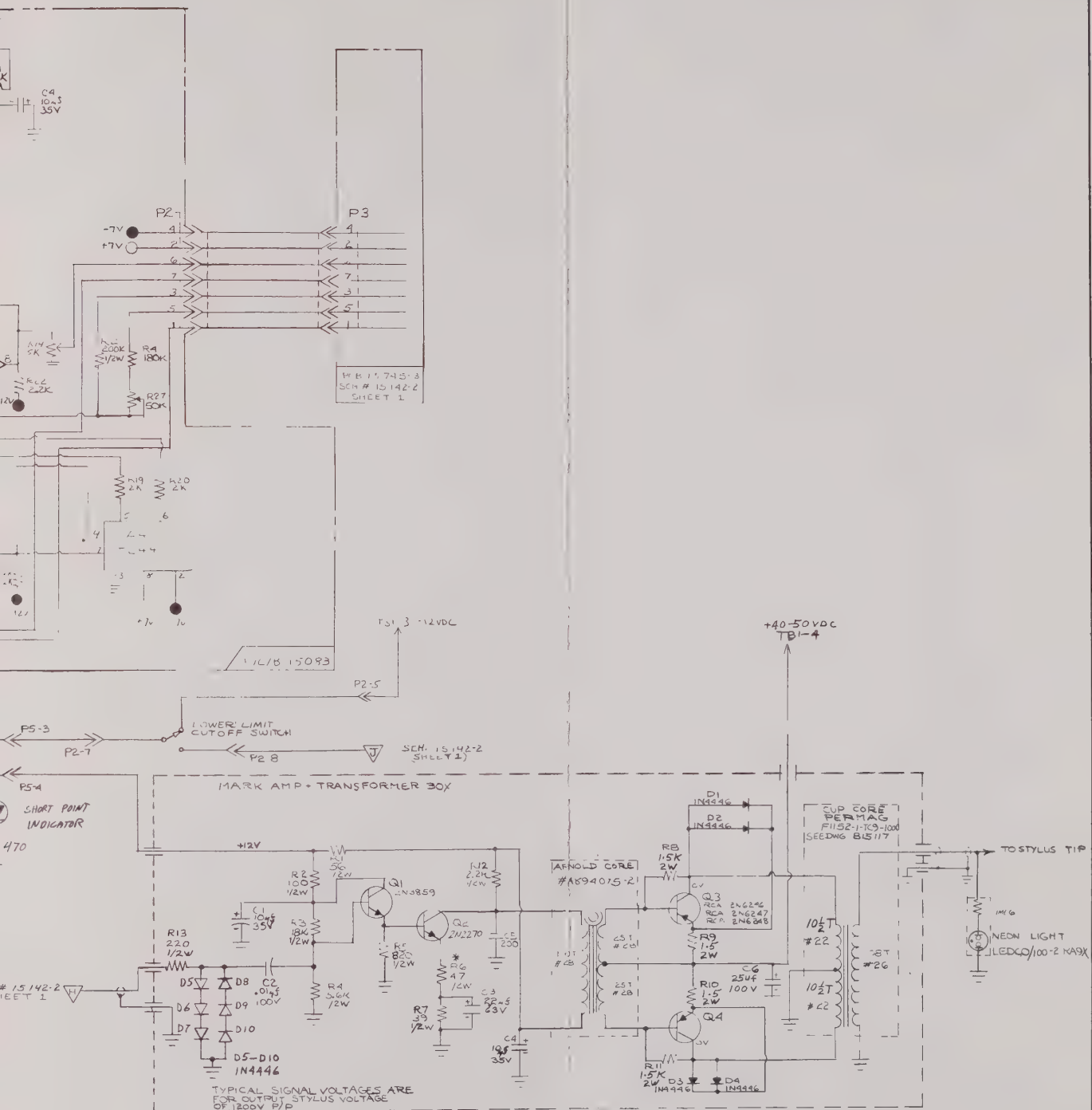
PARENT ITEM NO. 7159-5000	DESCRIPTION MOTOR OPTION, 230V, 50HZ ENGR DRAW	DSG	BATCH QTY 1
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LL CD	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY	ITEM UM TYP
01	1361-0018	MOTOR, 230, 50HZ, BODINE NCH-13		1.000	EA 4
04	2110-0014	FUSE, 1 AMP, SLO-BLO		1.000	EA 4
01	7159-5100	SOLENOID MOD 230VAC		1.000	EA 1

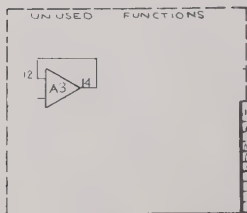
115 VAC: 1) CHANGE MOTOR CAP TO $6\mu\text{F}$ X 370VAC P/N 0161-0013
2) CHANGE MOTOR CAP STANTE P/N 7148-6802

[illegible]





NOTES: TBI-INDICATES TERMINAL BD. NUMBER ONE
 *-INDICATES FACTORY SELECT
 UNLESS NOTED OTHERWISE ALL RESISTORS ARE IN OHMS 1/4W, 1/2W AND CAPACITORS ARE IN P.F.



MAIN SCH. ELECTRICAL & SWITCHING		7900	
MAT.	FINISH	SCALE	
TOLERANCES UNLESS OTHERWISE SPECIFIED		KAY ELEMETRICS CORP.	
DECIMAL ± .005	FRACTIONAL ± 1/64	PINE BROOK, N. J.	
ANGULAR ± 30 MIN		DWG. NO. D15, 142-2P	
CHANGE		SHEET 2 OF 2	
ISSUE	CHANGE	DATE	APP.
1. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
2. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
3. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
4. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
5. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
6. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
7. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
8. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
9. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
10. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
11. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
12. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
13. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
14. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
15. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
16. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
17. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
18. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
19. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
20. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
21. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
22. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
23. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
24. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
25. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
26. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
27. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
28. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
29. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
30. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
31. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
32. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
33. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
34. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
35. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
36. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
37. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
38. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
39. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
40. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
41. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
42. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
43. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
44. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
45. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
46. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
47. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
48. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
49. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
50. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
51. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
52. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
53. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
54. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
55. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
56. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
57. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
58. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
59. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
60. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
61. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
62. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
63. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
64. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
65. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
66. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
67. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
68. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
69. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
70. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
71. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
72. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
73. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
74. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
75. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
76. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
77. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
78. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
79. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
80. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
81. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
82. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
83. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
84. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
85. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
86. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
87. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
88. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
89. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
90. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
91. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
92. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
93. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
94. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
95. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
96. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
97. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
98. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
99. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79
100. REV. 2/19 (ADD STYLUS SW.)		1/2/79	1/2/79

PARTS LIST

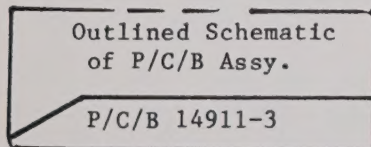
INTRODUCTION

This section list all of the parts in the Digital Sona-Graph, model 7800 and printer, model 7900. Virtually every component on the Digital Sona-Graph is available as a spare part. Individual circuits or entire printed circuit boards (PCB) can be purchased as spare parts. All parts purchase through Kay Elemetrics Corp must include the Kay 8-digit part number. If more convenient the user can purchase parts directly from the original manufacturer (manufacturer name and part number are also listed in the parts list).

Most of the circuitry for the Digital Sona-Graph is contained on printed circuit boards. For this reason the parts list has been subdivided by PCB (or assembly number). These boards and other modules for the 7800 and the 7900 are listed on the next page.

NOTE: Assembly numbers (parts list numbers for complete PCBs), reference module/board numbers and schematic numbers relate as shown below and in the cross reference table.

PCB REFERENCE DESIGNATION NO.:



14911-3
Basic Part No. Assy./Assy.
Modification

KAY 8-DIGIT PART NUMBER

Indicates Kay Manufactured/Modified Item

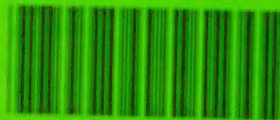
Basic Part Number

9=P/C/B Wired Assy

7149-11x3

00-99=Assy./Assy. Modification

MP MASTER



MA35041